AMSI **MATHSADDS**

CAREERS GUIDE

AUSTRALIAN MATHEMATICAL SCIENCES INSTITUTE

OPEN UP YOUR WORLD

APR.Intern is Australia's only national PhD internship program spanning all sectors and disciplines. Enhance your research career today with a 3-6 month paid industry placement. Opportunities available Australia-wide.

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SUPPORTED BY Australian Government Department of Education, Skills and Employment

aprintern.org.au

MATHS**ADDS**

CAREERS GUIDE

Students often ask 'how will I ever use maths in the real world?'

AMSI **MATHS**ADDS aims to help answer this question by providing a one-stop shop for information on mathematics and statistics careers.

With examples of real job ads, you can explore the real-world application of mathematics sector by sector. Be inspired by profiles and plan your next steps with study pathway information. We hope students, teachers and parents will change their perception of mathematics and statistics as they discover how varied and rewarding these career pathways can be.

If you'd like to delve even deeper, you can find more information on our website, including more job ads, profiles, videos and a range of resources to support students and teachers.

CAREERS.AMSI.ORG.AU

CAREERS IN MATHS

What's your dream? Have you ever thought of launching a startup company, reaching millions of users with a new app or saving lives with a miracle discovery in medicine? You can make it happen by choosing maths.

Mathematics is an essential in the 21st century workforce and it's your doorway into nearly every industry.

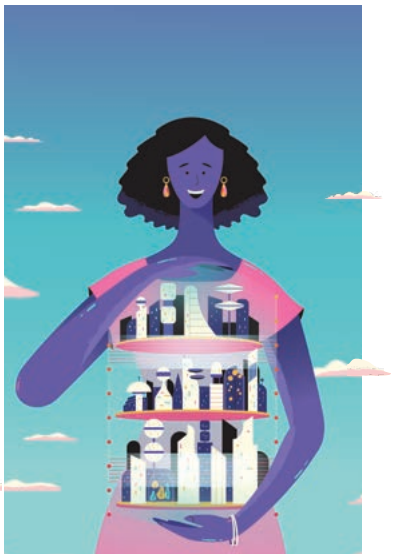
More than crunching numbers, maths is the language that allows you to solve the problems of tomorrow, innovate new technology and lead scientific discoveries. So if you're still wondering where on earth you'll ever use maths, don't! Start getting ready for the extraordinary. Some of the biggest challenges for future generations are still to come and the solution is maths!

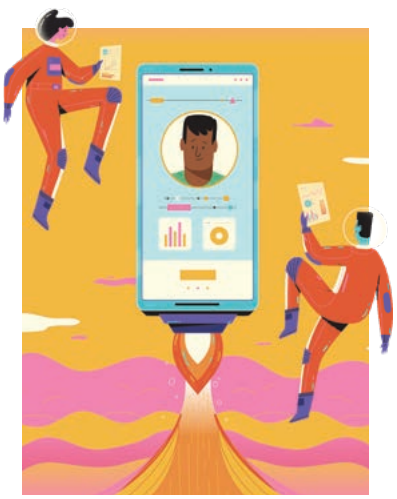
MATHS, THE 'M' IN STEM

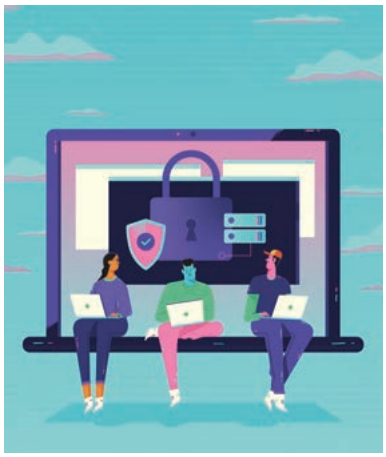
75% of the fastest growing jobs require STEM skills! We hear this a lot. But what does it really mean?

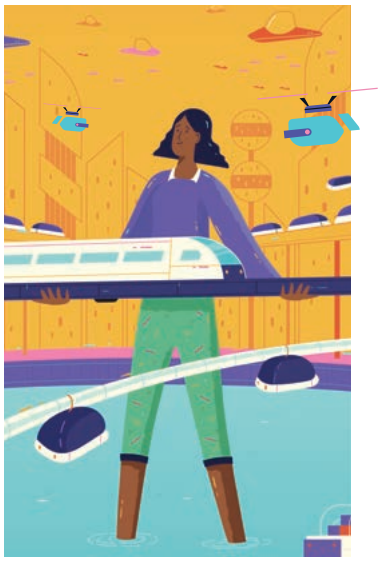
STEM (Science, Technology, Engineering and Mathematics) is all around us. It helps us cure deadly diseases, design future proof cities and make sense of increasing volumes of data and new technologies. Studying and working in STEM is all about solving problems and shaping lives. It's about having the agility to embrace the new and creativity to innovate the future.

ChooseMATHS and be ready for the amazing careers of tomorrow.









AMSI

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LA TROBE UNIVERSITY

latrobe.edu.au/mathstats

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MATHSADDS has been prepared by AMSI in partnership with La Trobe University. We thank our contributors, who kindly gave permission to reproduce their employment advertisements in this publication.

A 21st century experience at Australia's first university.

Skills in mathematics, statistics, and data science are becoming increasingly essential in solving the challenges of the future. Study with us and you'll learn from some of the brightest minds in the field. Make lifelong friendships and connections as you work towards an exciting global career.

What will you start here?

sydney.edu.au/science/maths

THE UNIVERSITY OF SYDNEY

CRICOS 00026A

EDDIE WOO

Mathematics heightens our engagement with the world, allowing us to perceive it as it truly is. Without maths at our side, there are countless patterns and realities in both human society and its environment that will simply sail over our heads while we are none the wiser. One of the reasons I love being a teacher is that I get to equip my students to go into the world with both eyes open, and this is critical to every field of human endeavour.

Keeping yourself safe online so that you can message your friends in privacy – or make secure purchases? Number theory and cryptography are the mathematical keys. Trying to design a city that efficiently moves people and traffic through its streets and walkways? This time it's graph theory. Choosing the right balance of players to run on to the field for a grand final? Sports statistics. Understanding and devising solutions for our changing climate? Integral calculus. Finding lost treasure hidden on the ocean floor? Search theory. Whatever the question, mathematics has a hand in the answer.

Big data and algorithms have played an important role in society for many years, but we are at an unparalleled point in history where our everyday experiences are governed by mathematical structures. Doctors diagnose diseases, judges decide criminal sentences, and actuaries set insurance premiums based on algorithms and neural networks that all run on the principles of mathematics.

> "UNDERSTANDING AND DEVISING SOLUTIONS FOR OUR CHANGING CLIMATE? INTEGRAL CALCULUS. FINDING LOST TREASURE HIDDEN ON THE OCEAN FLOOR? SEARCH THEORY. WHATEVER THE QUESTION, MATHEMATICS HAS A HAND IN THE ANSWER."

And so indeed they should – many of the situations we face and problems we must solve are far too complex for any single human being to comprehend on their own. Just like the industrial revolution devised mechanical muscles to work on tasks that we find physically impossible, the information revolution is devising mechanical minds to work on tasks that we find mentally impossible.

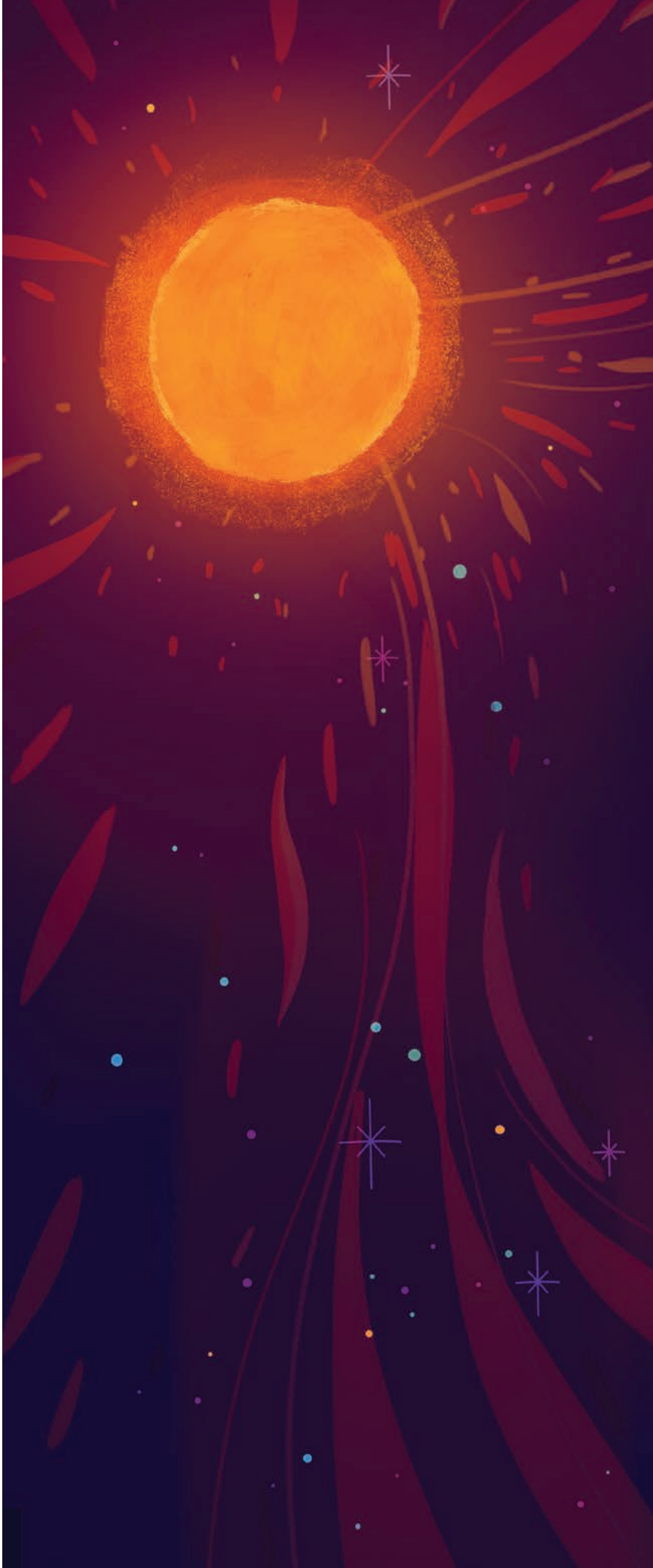
My advice to you: embrace mathematics and be one of the people to shape this exciting new world. Unimagined possibilities await us, if you have mastered mathematics then you will be the pioneer who sets a course for humanity behind you!

From Astrophysics and Chemistry to Biology and Zoology, Mathematics helps scientists make sense of how and why the world works.

Data analysis, mathematical modelling and evidence-based decision making play an important role in research. Scratch beneath the surface and you'll find science and maths working together to help understand our planet, oceans and wildlife, discover new galaxies and advance new technologies

With rising global temperatures, food security concerns and changing global ecosystem dynamics, climate change is a real and urgent priority! The green economy is worth $6 trillion worldwide and is the fastest growing market globally, with 850,000 more people needed in the sector by 2030.

Maths plays an important role in forecasting weather patterns, creating climate and environmental models and developing large-scale renewable energy solutions. Use your skills to crunch the numbers and save our planet!



SCIENCE & ENVIRONMENT

Pursue your passion for maths at UQ

Turn your passion for mathematics into a rewarding career in diverse industry sectors where mathematics plays an essential role. Work as a statistician, actuary, mathematician, financial consultant, meteorologist, bioinformatician or a teacher.

At The University of Queensland (UQ) choose from the broadest range of specialisations in pure mathematics, applied mathematics and statistics. You can study Bachelor programs in Mathematics, Science, Advanced Science and Arts, or expand your options with a dual program.

UQ also offers postgraduate study options in cyber security, data science, mathematics, financial mathematics and statistics.

Build your mathematical knowledge and develop your advanced critical, analytical and abstract thinking skills in classes taught by passionate lecturers. You can also take part in industry projects, research activities, and an active student society.

Find out more: **future-students.uq.edu.au**

UNIVERSITIES AUSTRALIA · U21 UNIVERSITAS 21 · GROUP OF EIGHT AUSTRALIA

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

CRICOS Provider 00025B

RESEARCH SCIENTIST - ENVIRONMENTAL STATISTICIAN

CSIRO / Queensland / Full Time / $92K - $100K +

- You have an interest and commitment to solving real-world problems in the marine/environmental space?
- Add value and work on a range of natural resource management issues
- Join CSIRO Data61, the largest data innovation group in Australia

The Position

Our world is changing fast and data is the basic currency of this new world. CSIRO Data61 is Australia's leading digital research network and focus on a data-driven future.

CSIRO Data61 are seeking a talented quantitative researcher to join our team of environmental statisticians in Brisbane. In this role you will be working on a range of problems in natural resource management, particularly in marine and coastal applications.

The CSIRO through Data61 is seeking to deepen its abilities to undertake statistical and quantitative research to underpin sustainable marine conservation and development. Areas of research include design and analysis of marine monitoring programs, including spatio-temporal modelling, in both marine conservation areas and locations that may be affected by mining.

Your success in this role will be underpinned by your record of science innovation and creativity, plus your ability and willingness to incorporate novel ideas and approaches into scientific investigations.

To be considered you will hold a doctorate (or masters with equivalent skills and experience) in a relevant discipline area, such as statistics, applied mathematics, or in a relevant application domain (e.g. environmental science, marine ecology) with a demonstrably strong quantitative component.

You will also have a demonstrated ability to manipulate, analyse and make inference from data and strong programming skills (e.g. R, Python or equivalent) to undertake customised statistical data analyses.

#data analysis #data analytics #data science #statistics #applied mathematics #modelling #data modelling

OKAY SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

- PROBABILITY
- STATISTICS
- ALGEBRA
- FUNCTIONS
- GEOMETRY
- TRIGONOMETRY
- VECTORS
- MATRICES

THE JOBS

- STATISTICIAN
- MATHEMATICIAN
- DATA SCIENTISTS
- ECOLOGIST
- ENVIRONMENTAL SCIENTIST
- METEOROLOGIST
- CLIMATE SCIENTIST
- ASTRONOMER

THE EMPLOYERS

- GOVERNMENTS
- UNIVERSITIES
- NATIONAL PARKS AND WILDLIFE
- CONSULTING COMPANIES
- ENVIRONMENTAL NGOS

“MATHEMATICS IS A SUBJECT THAT WILL CHALLENGE YOU, TAKE YOU TO THE FRONTIERS OF UNDERSTANDING, EXPAND THE SCOPE FOR YOUR CREATIVITY, & OPEN ENDLESS POSSIBILITIES.”

PROFESSOR MICHELLE SIMMONS AO

2018 Australian of the Year
Quantum Physicist - University of NSW

DATA ENGINEER

face2face Recruitment / ACT / Full Time

About the Role:

Our Federal Government client has a requirement for a Data Engineer to work on developing and applying scalable data science workflows for 2 large projects.

The role will involve creating data pipelines and processing techniques that work in both super computer and in cloud computing environments. There will be opportunities to work with internal and external stakeholders, including collaborations on exciting projects around the world. You will be supported in maintaining, improving and fostering collaboration on open source software.

The Data Engineer will:

- Create and maintain operational data processing pipelines Work with others to continue to develop and maintain the Open Data Cube
- Explore new ways of processing data that save time and deliver improved outcomes
- Work together with a diverse team of people to develop maintainable and well documented code
- Work with cloud engineers to help build and run cloud native solutions
- Provide technical advice to software engineers, data scientists and executive stakeholders via Slack, Github, email and formal documentation
- Join program-wide coordination ceremonies such as daily stand ups, three week sprints and program increment planning Engage with the open source community

The Data Engineer should have:

- Extensive experience with Python and/or similar programming languages
- Extensive experience with source control management and related processes
- Ability to communicate effectively with technical and non-technical stakeholders
- Working knowledge of AWS and infrastructure as code
- Degree or equivalent experience in a relevant field
- Knowledge of Linux system administration and relevant scripting languages

Desirable

- Knowledge of Geographic Information Systems and experience working with large volumes of raster data
- Experience working with Postgresql and PostGIS
- Experience using Docker and Kubernetes
- Experience using distributed computing tools like Dask

#statistics #applied statistics #statistical software #statistical consultancy #statistical methods

DATA SCIENTIST

On Q Recruitment / Full Time

- Work together with an expert team on a key project
- Contribute to the success of an invaluable Department
- Work towards better understanding Australia's Farm output

Our client is a research division within a government department that specialises in providing specialist policy-relevant research and advice to decision makers in relation to Australia's natural resources. This particular position would be involved with the development of a statistical model linking farm production with weather conditions.

In this position you will need to draw from a range of competences. A background in agricultural analysis will be extremely beneficial for this role. On top of this you will need to have an advanced knowledge of programming in R (particularly the data.table and mlr packages) and Python (particularly the pandas package).

To be successful you would have:

- knowledge of the agricultural sector
- Experience in the application of econometrics and/or machine learning algorithms for applied research
- Experience with data visualization software such as Tableau
- Experience working with large spatial climate data sets (including observation data and future projections)
- Programming experience in SAS and familiarity with Linux

#research #statistics #applied statistics #statistical software #statistical consultancy #statistical methods #data visualisation #datasets

> “IF YOU WANT TO SPEAK THE LANGUAGE OF THE UNIVERSE, IT'S MATHS. I'M FLUENT IN SOLVING PHYSICS EQUATIONS TO TELL THE STORIES OF EXPLODING STARS AND SWIRLING GALAXIES. FOR ME, MATHS WAS A TOOL TO UNDERSTAND PHYSICS AND CHEMISTRY. WITHOUT IT, WE COULDN'T CALCULATE HOW GALAXIES GROW OR TEST THEORIES OF DARK MATTER.”

ALAN DUFFY

Astrophysicist – Swinburne University, Lead Scientist of the Royal Institution of Australia and Program Lead for SpaceTech Applications in Swinburne’s Data Science Research Institute

Growing up in Northern Ireland, I wasn’t confident in maths – I wasn’t the top of the class that’s for sure. But the dark skies over there give you a clear view of the night sky, and I wanted to know how the world worked, especially space. Through Stephen Hawking’s *A Brief History of Time*, I discovered black holes, expanding space and collapsing stars. How could you not want to understand and work on that?

“If you want to speak the language of the universe, it’s maths. I’m fluent in solving physics equations to tell the stories of exploding stars and swirling galaxies. For me, maths was a tool to understand physics and chemistry. Without it, we couldn’t calculate how galaxies grow or test theories of dark matter.”

I didn’t know exactly what I wanted to do in life when I was at school. Most people don’t. Now I get to explore the mysteries of the universe, teach inspiring students and talk about exciting discoveries on TV. What more could I ask for?

Alan is a careers ambassador for AMSI’s ChooseMATHS project

When we think of health, doctors and nurses immediately spring to mind. However, mathematics and statistics professionals are essential to Australia's future health and wellbeing.

Gathering data and performing statistical analysis plays a vital role in managing infectious diseases, developing virtual reality technology, engineering prosthetic limbs, testing new drugs and improving patient care.

Epidemiologists use maths and stats to map diseases and understand their cause and spread. With the potential for whole communities to be impacted within a short time, mathematical models can be literal lifesavers in the face of an outbreak.

Our genetic information holds a blueprint for our health, providing insights to help us prevent, manage and treat disease. As doctors, clinicians and researchers collect more genetic information from patients, mainstream personalised medicine seems more likely.

It wasn't long ago that biomedical engineering seemed like science fiction, but as technology and data analysis advances, breakthroughs, virtual reality and artificial intelligence are rewriting life in and beyond the operating theatre. A new world of possibility is opening up with advances in 3D organ printing and major developments in prosthetics.

Maths and stats also allow us to help plan communities and understand how and why we use spaces to support good health.

By crunching the numbers you can give Australians a healthier and brighter future.

HEALTH & SOCIETY

DATA SCIENTIST

PainChek Ltd / Sydney / Full Time

About the business

PainChek® is an award-winning fast-growth business using the latest in technology to give a voice to people who cannot verbalise their pain. Utilising a smart-phone based medical device and artificial intelligence, PainChek® technology enables the assessment and scoring of pain levels in real-time.

We are a young business focused on building an inclusive culture together that supports and encourages each individual both personally and professionally. The PainChek® team work hard and celebrate their wins together, whether based in our head office in Sydney, around Australia, or in our international offices. We value integrity, honesty and mutual respect and are firmly focused on striving to make a positive impact on the lives of people suffering from pain.

About the role

We are looking for a Data Scientist to join our Sydney based team to become our inhouse AI and machine learning expert.

You will work closely with our clinical, technical and managerial teams, working to both improve our current products (the Adults version of PainChek with facial feature processing) and to develop new products (such as a children's facial model and vocalisation).

The role will be both tactical and strategic – you'll need to get your hands dirty, analysing and cleaning datasets, generating and evaluating models and integrating them into our applications.

However, you'll also need to look at emerging technologies, techniques, markets and opportunities to ensure PainChek remains a world leader in our markets.

Responsibilities

- Taking accountability for the entire machine learning process – from validating data sources through to verifying the integration of the resulting models into production-ready applications
- Generate new models and improve existing data models
- Seek to improve and grow our datasets
- Continue to improve our processes and tools that monitor and analyse data sets and model accuracy
- Continue to improve our processes and tools that analyse real-world product performance
- Audit and document existing and new data sources, models, processes and tools
- Ensure adherence to applicable regulatory requirements (PainChek is a certified medical device in Australia and Europe and are currently seeking US regulatory clearance)

What we are looking for:

- Strong problem-solving skills with an emphasis on product development
- Ability to assess the effectiveness and accuracy of new data sources and data gathering techniques
- Ability to work independently and to actively seek out and solve emerging issues
- Ability to work with a remote, multi-disciplinary teams
- Excellent written and verbal communication skills for coordinating across those teams
- A drive to learn and master new technologies and techniques
- A least 5 years of experience in the AI, Machine Learning and/or Data Science fields
- University-level qualifications in Statistics, Mathematics, Computer Science or another appropriate quantitative field
- Solid coding knowledge and experience with multiple languages (including Python)
- Experience creating and using advanced machine learning algorithms and statistics: regression, simulation, scenario analysis, modelling, clustering, decision trees, neural networks, etc

Desirables

- Working in a regulated industry, particularly with medical devices
- Experience working with facial recognition technologies
- Experience integrating AI models into mobile applications
- Knowledge of Java and/or Swift

#data analysis #statistics #statistical analysis #statistics skills #algorithm
#data science #data #machine learning

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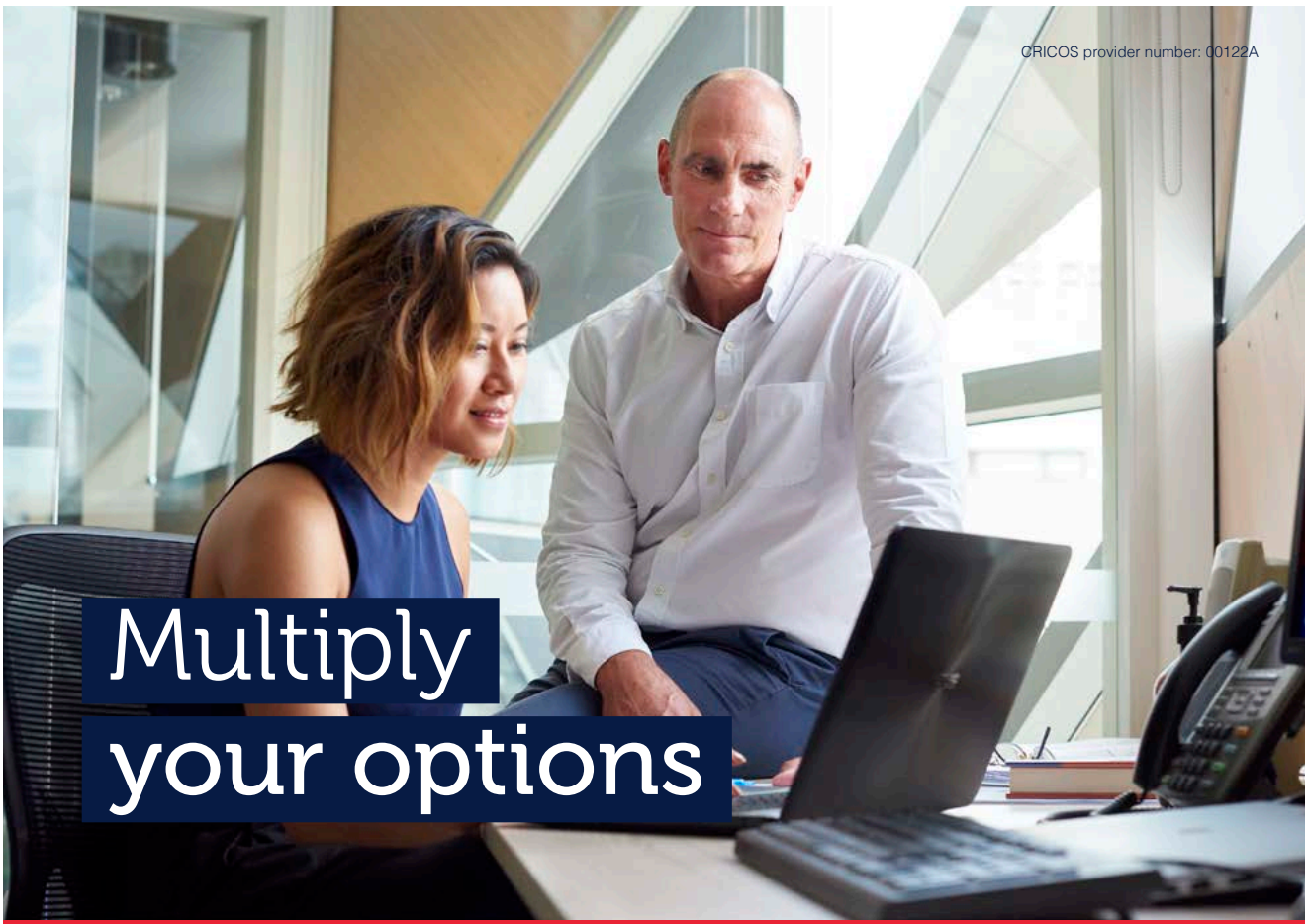

Develop strong analytical and problem-solving skills and enhance your employability in banking, finance, sports analytics, engineering, environmental modelling, biomedical research, cyber security, logistics, business and more.

With an emphasis on industry projects and placements, you'll have the skills to make informed, data-driven decisions in the workplace.

At RMIT, you have the chance to study a semester at one of our partner universities in Europe, Asia or the Americas.

rmit.edu.au/science

Choose from:

- Bachelor of Analytics
- Bachelor of Science (Applied Mathematics and Statistics)
- Master of Analytics
- Master of Data Science
- Master of Statistics and Operations Research
- Master of Cyber Security

What's next...

RMIT UNIVERSITY

“THE POWER OF MATHEMATICS IS NOTHING NEW. MATHEMATICIANS HAVE BEEN WINNING WARS, FIGHTING CRIME, BUILDING CITIES, TACKLING EPIDEMICS AND DRIVING RESEARCH - NOT TO MENTION GETTING RICH - FOR QUITE SOME TIME.”

DR ALAN FINKEL AO
Australia’s Chief Scientist

DATA ANALYST (ADVANCED SAS SKILLS)

face2face Recruitment / ACT / $80 - $94.99 per hour

About the Role:

Our Federal Government client is seeking a **Data Analyst** (Advanced SAS Skills) for a 6 month contract with possibility of extension

Duties

- Analyse data, produce reports and contribute to policy analysis on the Australian health system
- Develop and maintain the automated data preparation and data confidentialisation process for the health workforce planning tool
- Support the development of a new geospatial health workforce planning tool through the analysis of large and complex health datasets
- Undertake complex **data analysis**, interpretation and investigation of large data sets
- Identify patterns and trends in data sets, prepare data for analysis and reporting
- Document all aspects of analyses and data management Collaborate with custodians of data sources to identify data that addresses health workforce needs, trends, and insights; Participate in change management, **data validation** and verification of ETL process
- Foster an evidence base for evaluation and performance measurement of policy interventions

Highly Desirable

- Proven working experience as a data analyst or **data scientist** Advanced SQL and SAS programming skills
- Experience developing advanced macros and clean, efficient, re-usable and readable code in a fast paced and changing environment
- Demonstrated achievements in developing projects and building SAS processes from the ground up
- How many years' experience do you have as a data analyst?
- Which of the following Relational Database Management Systems (RDBMS) are you experienced with?
- Experience presenting analysis to higher level public servants, such as data analysis or costing models
- Working knowledge of data models, database design/structures and basic statistics
- Good report writing skills
- Demonstrated ability to manage time and work in fast-paced environments
- Computer science degree or degree in a highly quantitative field beneficial but not essential for those with experience
- A health, Medicare or PBD background - desirable
- Knowledge of MBS data – desirable

#data analysis #statistics #statistical analysis #algorithm #data science #data

DATA ANALYST

On Q Recruitment Pty Ltd / ACT / Full Time

- Federal Government department in Health
- Contribute to management of subsidised drugs in Australia
- 6 month contract with possibility of going permanent

Our client is a federal government department that facilitates patient access to cost effective treatments to improve health outcomes. They have an opportunity for a **Data Analyst** to join their fun and vibrant team. You will be the expert in translating the numbers into everyday, meaningful information to support the ongoing provision of medicines on the PBS.

About the Role

- Extract and analyse data to include in reports to relevant departmental committees as required
- Prepare PBS utilisation reports
- Assist senior analysts with **data administration** and provide advice on data governance and policy matters
- Provide advice on approaches used in budget impact models to estimate the projected use and cost of proposed listings of medicines on the Pharmaceutical Benefits Scheme
- Preparation of minutes of meetings and advice on major submissions for the PBAC
- Assist with setting priorities for the team, managing workflows, and ensuring quality of outputs for the team

Skills & Experience

- Strong research and **analytical skills**
- Competency in the use of MS Excel
- Demonstrated experience in using SAS, or other programming language, to analyse and communicate **data analysis**
- Effectively engage with a wide range of key stakeholders including senior staff
- Strong organisational and time management skills, including the ability to prioritise tasks and meet deadlines within a busy team environment under limited direction and utilising the team's expertise
- Experience in drafting quality papers, briefings or other documentation in short time frames and with excellent attention to detail

It would be advantageous if you have some knowledge of the PBS, and qualifications in data analytics or statistics.

#data analysis #statistics #statistical analysis #statistics skills #algorithm #data science #data analysis #data #statistics #data administration

> "MY YEAR 12 MATHS TEACHER USED TO SAY THAT 'MATHS MAKES SENSE'. THIS RESONATES WITH ME - THERE'S ALWAYS AN ANSWER WHEN MATHS IS INVOLVED."

WENDY EWING

Deputy Director of Pharmacy – Monash Health

Maths is involved in all aspects of medication use: how we determine the appropriate dose to give to a patient, how to determine how well a patient's liver and kidneys are functioning, and how long a medication will be in a patient's body.

I'm responsible for medication safety across Monash Health. Medicines are the most common treatment that patients receive in hospital. They can be very effective, but an error can have major consequences. My role involves governance and responsibility of medication safety initiatives to improve the way medicines are prescribed, dispensed, stored and administered, with an overall aim of improving patient safety. The work that I oversee aims to reduce medication errors that harm patients.

At school it can be tough to see how your subjects will translate to real life or to a future career path or job. Let's be honest, not everything will. But it's part of a journey to find out what you like and what you're good at.

Wendy is a careers ambassador for AMSI's ChooseMATHS project

Innovative problem solvers, engineers use mathematical and statistical tools to help shape our world for the future. Advancements in robotics, infrastructure, chemical processes, software and machines, have seen jobs in the sector have rise by 50 per cent over the last four years.

From roads, buildings and waterways to transport infrastructure, civil engineers are in critical demand to design cities to cope with global population expansion and increased migration to urban areas. This requires high-level analytical thinking and problem solving, skills developed through long-term maths study.

You might be reading this on a mobile or laptop, this would not be possible without the expertise of a software engineer. In high demand as companies respond to automation and technological advancement, they design the networks and software that support our traffic lights, train networks and even the broadcast of your favourite morning TV shows.

Engineers are optimisers, their skills are needed in some of Australia's biggest industry sectors such as aviation, energy and mining and resources. They lead the charge to help us take off, increase efficiency and find solutions to secure our future.

Choosing maths opens opportunities to change the world by tackling some of our biggest challenges.

ENGINEERING & RESOURCES

> MATHS WAS A SUBJECT THAT ALWAYS MADE SENSE TO ME. NOW I'M WORKING ON SOME OF AUSTRALIA'S HIGHEST PROFILE RUNWAY PROJECTS.

DEMI VAN DEN HEUVEL

Senior Project Engineer - West Gate Tunnel Project

There's a real buzz that comes from solving a big problem. As a civil engineer planning and designing airport runways, the problems I work on mean people can travel the world safely.

I'm currently working as a member of the design team on the proposed new runway at Melbourne Airport. Working on a brand new runway project is pretty cool. It's not often new runways are built in Australia so it's exciting that I've been able to work on two of them!

Maths is crucial to the whole process. It's the way engineers come up with solutions to problems. It helps me work out things like how many aircraft might land on a runway over a 20 and 40-year period, the impact of varying aircraft types, the impact of next-generation aircraft, how thick the pavement design should be to cater for take-offs and landings, and how much space to allow for planes parking, turning and refuelling.

Having a role in shaping and delivering future aviation infrastructure in Australia is hugely exciting and rewarding.

REPORTING ANALYST - COMPLIANCE

Alinta Energy / Melbourne / Full Time or Part Time

- Melbourne CBD Based
- Join a supportive team environment that embraces innovation and supports fresh ideas
- Excellent career progression opportunities

Alinta Energy is a fast-growing Australian energy generator and retailer with an owned and contracted generation portfolio of around 3,000MW and over one million combined electricity and gas retail customers in Australia. We employ over 700 people throughout operations across five of Australia's six states as well as New Zealand. With a decades-long history in Australia, we're proud to be able to deliver an essential service to our customers.

We're determined to make energy more affordable and we are committed to securing an energy mix that delivers on this challenge. This involves working to deliver 1,500MW of large-scale renewable energy by 2025.

About Role:

We are looking for Reporting Analyst to join our Customer Operations team based in Melbourne. Reporting to Head of Retail Compliance, you will be responsible for preparing accurate and timely regulatory and government reports for submission. The ideal candidate will be proactive and motivated individual who has strong **analytical skills** and who is passionate about working with **data and numbers**.

Additional Responsibilities will include:

- Provide **analysis**, **insights** on trends and risks across Customer Advocacy, Quality Assurance and Compliance
- Responsible for the preparation and sign-off of all Retail regulatory reporting
- Respond to all ad hoc **data requests** from the regulators and government bodies

To be successful you will have:

- A Relevant tertiary qualification in commerce, economics, mathematics or other relevant numeric discipline
- Experience in compiling and presenting analytical results and recommendations to stakeholders
- Demonstrated willingness and ability to learn new skills
- Highly developed ability to work in a team environment and effectively prioritise workload
- Advanced computer skills, particularly in relation to the development of analytical techniques and tools
- Experience in the Australian Gas and Electricity Markets is highly regarded

If you thrive on working in a fast paced and supportive environment and have exceptional relationship and stakeholder management skills, then please apply now! This is an excellent opportunity for a pro-active and highly engaged **Reporting Analyst**

It's an exciting time to join Alinta Energy, we are growing fast and need people who want to grow with us!

#analytics #data science #data analytics #big data #machine learning #statistics #modelling #predictive modelling #quantitative modelling #modelling #data analysis #optimisation #visualisation #mathematics #machine learning #statistical analysis

OKAY SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

- ALGEBRA
- CALCULUS
- GEOMETRY
- TRIGONOMETRY
- PROBABILITY
- STATISTICS
- OPTIMISATION

THE JOBS

- ENGINEER
- PROGRAMMER
- SOFTWARE DEVELOPER
- SYSTEMS ARCHITECT
- ENVIRONMENTAL ENGINEER
- WATER SPECIALIST
- SUPPLY ANALYST
- PROCESS ENGINEER

THE EMPLOYERS

- MINING & RESOURCES COMPANIES
- ENGINEERING FIRMS
- CONSTRUCTION COMPANIES
- MANUFACTURING COMPANIES
- TECHNOLOGY COMPANIES

ELECTRICITY MARKET MODELLING ANALYST

ACIL Allen Consulting Pty Ltd / Brisbane / Full Time $55,000 - $69,999

Electricity Market Modelling Analyst, Brisbane

- Are you a recent graduate with a degree in a quantitative discipline, such as economics, statistics, mathematics, or finance, and have a couple of years ' workplace experience?
- Are you ready to take the next exciting step in your career and build on your quantitative knowledge and experience developed recently in the workplace?
- Are you looking for challenging work and would like to launch into a rewarding career in the energy consulting industry?

ACIL Allen is looking for a electricity market modelling **analyst** to join our successful energy team in Brisbane.

Our experienced energy team is well regarded for its electricity **market analysis** and advice that it provides to government and private clients throughout Australia and South East Asia.

About the role

At ACIL Allen, initially, you will:

- Support our senior consultants by operating our complex energy market models and other analytical tools of the Australian electricity markets, collating and analysing their outputs, used to develop solutions for clients
- Manage the knowledge bases to ensure the effective functioning of our energy market models
- Assist our senior consultants to develop new analytical capabilities to address emerging market issues
- Work with our senior consultants in delivering consulting services to our clients

Over time, your experience and expertise will evolve and we will encourage you to grow in your role and expand your responsibility.

About you

- To be considered for this position, you must
- be self-driven, well organised, have an eye for detail
- be quantitative by nature, and demonstrate your interest in the electricity market
- will have completed your degree or equivalent in a relevant **quantitative discipline** during the past couple of years
- will have two years' experience in the workplace

About ACIL Allen

ACIL Allen Consulting Pty Ltd is one of Australia 's leading economic consultancies. It provides economic, strategic and policy analysis to a wide range of Australian and overseas companies, government departments and regulatory agencies, banks and industry associations. ACIL Allen has offices in Melbourne, Canberra, Brisbane, Sydney and Perth.

At ACIL Allen:

- We offer our people challenges to find opportunity in complexity
- Our workplace is ethical, diverse, flexible, collegiate, and supportive. It is unburdened by 'red tape'
- We trust our employees to do the right thing
- We work for significant clients who want independent thinking and frank and fearless advice. We encourage and reward critical thinking and high performance
- We seek and employ passionate people who seek pride in their work, and who want to be leaders in their areas of endeavour

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#market modelling #statistics #quantitative descipline #market analysis

“WE ASPIRE TO BE A COUNTRY WHERE PEOPLE FEEL THAT THEY HAVE THE SKILLS AND CONFIDENCE TO CREATE TECHNICAL INDUSTRIES THAT ARE ROBUST AND READY FOR THE 21ST-CENTURY ECONOMIES OF THE WORLD.”

PROFESSOR LISA HARVEY-SMITH

Australia’s first ambassador for Women in STEM

BHP | Foundation

75% of fast growth industry jobs need STEM skills

Since 2015, the BHP Foundation has enabled AMSI's Choose Maths program to nurture and support the next generation of science, maths, engineering and technology professionals, especially girls and young women.

bhp.com/foundation

> “I LOVE MY JOB PROTECTING THE WORKFORCE, WORKING WITH PEOPLE ON OCCUPATIONAL EXPOSURES, ENHANCING CONTROLS TO REDUCE OR ELIMINATE HAZARDS, AND PUTTING SCIENCE AND MATHS INTO EVERYDAY USE.”

RUTENDO MARUME

Health, Safety and Environment Principal - BHP

I’m working as a Health, Safety and Environment Principal for global resources company BHP, at their Olympic Dam site in outback South Australia. Protecting the health and safety of our people and the community requires me to analyse and assess risks and to control potential hazards in extracting copper and uranium at one of the world’s largest underground mining complexes.

I completed my high school education in Zimbabwe. Growing up I wanted to be a medical doctor, leading me to choose STEM subjects in high school. At university I majored in medical biotechnology and loved conducting scientific research in areas including neurological disorders.

Unexpectedly I found my way into a health and safety profession. Even though I am not conducting experiments in a lab, I am still able to utilise my scientific background and apply mathematics to my day-to-day work. From a health and safety perspective, statistical analysis is important for identifying trends in hazards and analyzing actual events as they occur so any injuries that may be sustained are tracked, this all assists in implementing targeted interventions to prevent harm to people.

I love my job protecting the workforce, working with people on occupational exposures, enhancing controls to reduce or eliminate hazards, and putting science and maths into everyday use.

The ability to make effective decisions in an often unstable business climate has never been more important. Data insights and predictions are essential to protect the all important bottom line.

Gone are the days when CEOs and business leaders ‘followed their gut’. Graduates with maths and stats skills are in high demand to interpret and model data, optimise processes and transform companies.

A major global growth industry, analysing and measuring the marketing spend of large corporations is a must. Return on investment (ROI) is essential, with analysis on media spend, sales data and increasingly, web and social media engagement key to highlighting the effectiveness of marketing campaigns.

For startups, business forecasting, budgeting and modelling are pivotal to early success. Many of the biggest corporations of our time would not have existed without the help of mathematics, statistics and data analytics.

BUSINESS & MARKETING

DATA SCIENTIST

Game Marketing Genie / Melbourne / Full Time

About the business

Game Marketing Genie is a seed stage start-up that is currently developing its own marketing & advertising technology SaaS product, offers an array of digital solutions, delivers creative and data-driven campaigns for brands and in general is on a mission to help businesses effectively reach modern markets.

The company is facing a year of immense growth and expansion with product launches, brand launches and service launches on our roadmap. We are seeking new members to join us on this journey!

About the role

We are looking to hire a highly creative Data Scientist to address data analytics challenges in our organization, to collect large volumes of data from varying sources, clean and interpret data, create solutions to overcome challenges and communicate with interested parties.

To succeed in this position; you need to be curious, creative and tech savvy. You need to stay up to date with data programming software and apps, have outstanding understanding of statistics and mathematics, and be proficient in writing algorithms. Top candidates will be persistent, and have excellent analytical and problem-solving skills.

Data Scientist Responsibilities:

- Having meetings with team members regarding projects
- Collecting and interpreting data
- Automating and integrating processes
- Researching solutions to overcome data analytics challenges
- Developing complex mathematical models that integrate business rules and requirements
- Creating machine learning models
- Communicating and meeting with engineers, IT teams and other interested parties
- Sharing complex ideas verbally and visually in an understandable manner with non-technical stakeholders

Benefits and perks

- Comfortable, middle of the city office space
- Extremely loving and friendly team
- Mission and vision driven environment
- Smart and happy to share co-workers
- Immense growth opportunities all around

Skills and experience

- A MSc or PhD degree in Applied Mathematics or Statistics
- 5+ years industry experience
- Advanced coursework in machine learning and programming
- Experience using data visualization tools
- Experience with data querying languages, and statistical or mathematical software
- Proficient in writing algorithms, and knowing when to apply them
- Excellent understanding of statistics, multi-variable calculus and linear algebra
- Outstanding communication skills

#machine learning #data #algorithms #analytics #data analysis #predictive modelling #data science #data visualisation #market research #statistics #data analyst

OKAY SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

- LINEAR ALGEBRA
- CALCULUS
- PROBABILITY
- STATISTICS
- OPTIMISATION
- MATHEMATICAL MODELLING

THE JOBS

- BUSINESS ANALYST
- MARKETING ANALYST
- DATA SCIENTIST
- QUANTITATIVE ANALYST
- MARKET RESEARCHER

THE EMPLOYERS

- ACCOUNTING & FINANCE FIRMS
- INSURANCE COMPANIES
- AUSTRALIAN BUREAU OF STATISTICS
- ADVERTISING & MARKETING COMPANIES
- CONSULTING FIRMS
- GOVERNMENT AGENCIES

SEVEN OF THE TOP TEN

BEST JOBS GLOBALLY

BASED ON JOB OUTLOOK, LIFESTYLE & INCOME CALL FOR

MATHS & STATS

Career Cast
careercast.com/jobs-rated/best-jobs-2017

EXECUTIVE CONSUMER INSIGHT

The Nielsen Company (Australia) Pty Ltd / Sydney / Full Time

Nielsen is the largest market research firm in the world, tracking what people watch and buy in over 100 countries. With 40,000+ employees, we at Nielsen pride ourselves on providing our people with endless possibilities and paths to grow their careers.

Simply put, we do two things at Nielsen. We measure performance for our clients and we use analytics to give our clients the strategic direction they need to grow their business.

Nielsen's Consumer Insights practice specialises in designing tailored research solutions to solve complex business problems. As a part of the Consumer Insights team, you will be working with some of Australia's biggest brands to make an impact across a diverse range of industries, including: FMCG, retail, automotive, financial services, tourism, government and more. In your role, you will manage bespoke research projects spanning a wide variety of research approaches – ranging from traditional research methodologies through to using next-generation research tools, such as immersive reality. You will also conduct research covering key strategic areas, such as brand and advertising, customer experience, shopper and pure customised-research.

If you have finished your studies and have a passion and curiosity for **consumer insights**, and an aptitude for problem solving, and a desire to expand your analytical skills, then we would love to hear from you!

Reporting to the Senior Manager / Director (Consumer Insights), you will play an essential role in learn to manage research projects from start to finish; supporting the Senior Manager / Director on research design, **analysis**, reporting through to presenting findings to clients. We will arm you with the best in market research skills and capabilities, through on the job coaching and structured training.

Responsibilities:

- Manage research projects end-to-end: from questionnaire design, survey set up, data acquisition, managing fieldwork, data processing
- Assist the Senior Manager / Director in writing of high quality research reports and the presentation of findings to clients supported by desk **research** and secondary data sources
- Attend client meetings with Senior Managers / Director to understand client business issues and assist them in sales activities in costing projects and project timeline development
- Provide support to clients by responding to ad-hoc requests and questions in a timely and efficient manner and by demonstrating commitment to quality and excellent client servicing
- Drive client satisfaction by providing insights and actionable recommendations in reports and presentations and by providing value- added analyses and response to special requests

The successful candidates will have...

- Tertiary qualifications in business, marketing, **market research**, psychology, statistics or related
- Interest in research, insights and analytics
- Be eager to learn, self-motivated, adaptable and proactive - no two days are the same in this role!
- Basic **analytical skills** and knowledge of basic **statistical concepts**
- Excellent attention to detail, strong project and time management skills
- Ability to create insights using data and analytics
- Strong communication skills and experienced in presenting
- Proficient in Microsoft Office (Word, PowerPoint and Excel)
- Experience using analysis software such as Q, SPSS

Life at Nielsen...

At Nielsen, we're proud of our diversity – our Australian and New Zealand offices alone are made up of over 50 cultures and nationalities!

We strongly believe in promoting from within. We encourage all of our people to pave their own career path and explore ways to grow with us. Nielsen is an environment that encourages all associates to be themselves, weave their talents and passions into their work, put their hand up and have their voice heard. We operate on principles of trust and accountability. We sway against micromanagement, enabling our associates to engage, include and decide in order to move swiftly and boldly, while keeping our clients at the heart of everything we do.

Further Benefits:

We believe in a good work / life balance and offer an extensive range of flexible working options for all associates. We also offer several leave options such as Volunteer Leave, Birthday Leave, Parental Leave, yearly bonus leave initiatives and much more. We also provide a range of programs and activities for associates to join year-round that encourage good health, wellbeing, networking and community engagement!

All of our Nielsen employees get access to corporate discounts with companies such as Bupa, Sunsuper, and HSBC, and, we also offer a yearly study allowance for those wishing to further their education in a field related to their role or our company.

#machine learning #data #algorithms #analytics #data analysis #predictive modelling #data science #data visualisation #market research #statistics

UNSW SYDNEY

As a recognised leader in mathematics and statistics in Australia our mission is to create, discover, and share mathematical knowledge.

Our **Advanced Mathematics** degree is a premier program for talented maths students. Combining advanced coursework with an Honours-level research project, graduates will become capable of developing new maths, to add to core mathematical knowledge, or to solve important real-world problems. It can also be combined with other disciplines – some of the most popular choices include Engineering, Actuarial Studies, and Commerce.

Our **Bachelor of Data Science and Decisions** is a unique multidisciplinary program focused on mathematical methods, statistics, computing, business decisions, and communication. Taught across three different Schools at UNSW - Mathematics and Statistics; Computer Science and Engineering; and Economics - this program trains graduates to meet the growing demand for Data Scientists and Analysts nationally and internationally.

We offer a wide **range of scholarships,** such as Co-op Scholarships funded by industry partners, including CBA, the Reserve Bank of Australia, Solar Analytics, PwC, JP Morgan, Westpac, NAB, Singtel Optus, ASIC, icare, Infigen Energy and TAL Services.

#1 in Australia*

Academic Ranking of World Universities
2019, 2018, 2015, 2014, 2013

US News Global Rankings
2019, 2018, 2017, 2016

CWTS Leiden Rankings
2019, 2018, 2017, 2016

> maths.unsw.edu.au

CRICOS Provider No 00098G

> LARGE GLOBAL BRANDS NEED TO BE ABLE TO JUSTIFY THEIR MARKETING SPEND. I USE MATHS TO WORK OUT THE BEST WAY THEY CAN DO THAT.

LESLEY WEST

Marketing Analytics Director - Data 2 Decisions

Marketing analytics is a practical application of maths to quantify and understand how effective advertising is or can be. In simple terms, I work with global brands to help them understand where their advertising and media budget is going and how they could use it more effectively.

In today's climate, marketing teams normally can't just spend their budget and not justify where it's going and how it's working – that's where I come in. Working with sales data, media spend and other variables, we can build statistical models to determine the impact advertising has on sales. The data can tell us the best channels (TV, radio or online) and when to start a campaign to get the best result. Great information for a Chief Marketing Officer to have when they ask for a bigger advertising budget.

Don't be afraid of the things that seem daunting or hard, especially when it comes to numbers. Maths, data and statistical skills are needed now more than ever.

Celebrate what makes you different. If you find something you enjoy learning about, your career will take care of itself. Applying maths to a commercial problem and communicating the outcomes is part of what makes me special.

How about you?

Digitalisation, automation, optimisation, now is the time to join the technological revolution that is transforming nearly every sector.

Computing, programming and data science all rely heavily on maths skills as well as logical thinking, problem solving skills and creativity. Our world is radically changing and with these skills you can be part of this exciting new era.

Every day the world produces extraordinary volumes of data; this information holds the key to driving a smarter, faster and more competitive business. Every card swipe, every photo share, every Google search is recorded. With a global population over 7.7 billion, it's not surprising over 90 per cent of the world's data was collected in the last two years.

As major corporations seek to harness data and drive new technologies changing how we live and work, the demand for mathematics and statistics graduates will only soar.

Robotics in medicine and surgery, drones for parcel delivery, artificial intelligence, driverless cars and virtual reality travel all sound futuristic, but may be closer than you think!

TECHNOLOGY

IN THE LAST 10 YEARS

STEM JOBS GREW 24%

WHILE NON-STEM JOBS GREW BY JUST 4%

U.S. Department of Commerce Economics & Statistics
Office of the Chief Economist - STEM Jobs: 2017 Update

DATA ENGINEER

Bluefin Resources / Sydney / Full Time 115,000 to 130,000 + 17% Super

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- Leading & Prestigious University
- 24 Month Fixed-Term Contract

Bluefin Resources are working with a Prestigious University in Sydney to recruit a Data Engineer with demonstrable Python, Data Modelling and Cloud technical capabilities.

Position Purpose

To build a data lake capability using ETL processes and workflows, owner of data engineering tools and subject matter expert of key source system tables both enterprise and 'Internet of things.'

Accountabilities

- Reverse and forward Engineer data assets eg - for migration to AWS I Azure cloud infrastructure, Google Cloud
- Write, test and validate data transformation and ETL routines within Apache Airflow, Python, Alteryx
- Build data acquisition and ingestion pipeline using Python programming language
- Experience in pipeline scalability, through services such as Kubernetes
- Deploy models into production using CI/CD pipelines
- Recommend ways to improve data reliability, efficiency and quality
- Produce data-driven solutions and experience as needed using modern data sourcing, integration and different modelling techniques
- Pilot, introduce and demonstrate innovative data-driven technology for the University
- Foster a digital-first, consumer-centric culture that inspires all employees to become data-enabled advocates
- Design and continuously update user guides, technical specifications and process flow documents for all applications and tools
- Gather, process, transform and model raw data from disparate sources and third parties
- Comply with relevant EEO and WHS regulations
- Perform any other duties as required and appropriate for this classification

Require Knowledge

- Perform any other duties as required and appropriate for this classification
- A degree, or equivalent experience, in computing science, software, quantitative, or related discipline
- Knowledge of data databases, operating systems, current internet technologies and reporting toolsets
- Knowledge of Business Information tools such as Tableau, Apache Superset or Power BI
- Strong understanding of BI data structures and how to optimise data delivery for different BI Reporting tools
- Expertise in SQL, SQL tuning, schema design, Python, Kubernetes
- Advanced knowledge and skills in Python, Apache Airflow, R, ETL and integration
- Knowledge and experience with software engineering principals

Key Experiences

- Demonstrated experience in developing, implementing and maintaining data pipelines and data models with workflow tools such as Airflow, Oozie or Luigi
- Experience in analysing, modeling and interpreting large and complex data, with the ability to integrate data from multiple sources and technologies
- Experience with solution building and architecting with public cloud offerings Azure, AWS and Google for services such as S3, Blob, BigQuery, SQL DB, Data Lake, Cosmo DB, Kubernetes, Batch and Data Factory
- Managing and prioritising multiple work demands to deliver milestones that meet project deadlines

Communicating report results and data interpretation to clients with varying levels of understanding of data/report analysis

On Offer - This is an initial 24 month fixed-term contract with the high chance of ongoing extensions based in North West Sydney.

An amazing EVP program that focuses on your personal and mental wellbeing as well as your skills for career growth.

#programming skills, #mathematics #machine learning #statistics #datascience #data pipelines #data analytics

OKAY SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

- PROBABILITY
- STATISTICS
- CALCULUS
- LINEAR ALGEBRA
- MATHEMATICAL MODELLING
- OPTIMISATION
- MACHINE LEARNING

THE JOBS

- APP DEVELOPER
- DATA ANALYST
- GAME DEVELOPER
- SOFTWARE ENGINEER
- COMPUTER SCIENTIST
- DATA SCIENTIST
- ELECTRONIC ENGINEER
- PROGRAMMER

THE EMPLOYERS

- GOVERNMENT AGENCIES
- DEFENCE COMPANIES
- BANKS
- LARGE RETAIL COMPANIES
- FINANCE

TABLEAU INSIGHTS ANALYST / DEVELOPER

Correlate Resources / Sydney / Contract $800 per day

As a Tableau Insights Analyst / Developer the responsibilities of this role will involve but not be limited to:

- Lead the engagement with stakeholders across the business to map project requirements, understand strategic initiatives and business drivers, identifying all data assets to be leveraged, key KPIs to be measured, and insights to be gleaned
- Design the output format and deliver the data platorms for a series of projects and analysis focused on optimising; customer engagement and customer experience
- Support the project implementation to be delivered in MS Excel format
- Provide innovative solutions and insights that will help solve business problems

To be successful in this role you must be an experienced and motivated Data Visualisation and Insights specialist, hungry to push yourself. You will be able to demonstrate;

- Experience engaging stakeholders to understand strategic challenges and proactively recommend intelligent insights driven solutions to solve the unanswered questions
- Strong technical proficiency with Tableau
- Strong technical proficiency writing complex SQL queries to manage, manipulate and automate complex data feeds to be leveraged for analytics-based productss
- Any experience working in a true analytics environment delivering projects around customer engagement and customer experience will be a strong advantage
- Have solid communication and presentation skills

#programming skills, #mathematics #machine learning #statistics #data science #analytics #data

ALGORITHM SPECIALIST/MATHEMATICIAN

Simavita / Sydney / Full Time

SIMAVITA is a dynamic technology and medical device development company. We are well positioned to globalise our technology and to expand our patented technology in the development of innovative digital healthcare solutions.

We are seeking a proactive Mathematician or Computer Science major to join our Research & Development Team. Key responsibilities will include:

- Design & run experiments to gather and analyse data from real world sensors
- Develop algorithms for healthcare application and solutions
- Follow design control processes
- Support product verification and validation activities

To be considered for this position, you will be able to demonstrate the following selection criteria:

- Experience with machine learning and deep learning principles and application
- Experience using software tools for data analytics and modeling
- Preferably experience in signal processing and development of sensor based algorithms within commercial or industrial solutions
- Preferably coding skills
- Tertiary qualifications (Bachelor level) in Mathematics or Computing Science, or similar discipline
- Ideally, 3+ years' applied mathematics development experience
- Good oral and written English communication skills

We are keen to hear from qualified candidates with the enthusiasm, energy and interpersonal skills to quickly establish themselves within a broader Research & Development Team to deliver project deadlines. Initially this role is for a 6 month contract, with potential to extend.

#data analytics #algorithms #mathematics

> MATHS IS CRUCIAL TO EVERYTHING WE DO. FROM SAFETY AND RELIABILITY TO OVERALL ENGINEERING OF A PRODUCT.

MARITA CHENG AM

Founder Robogals & CEO – Robotics company Aubot

Relax, robots aren't going to take over the world. But they are helping humans every day in hospitals, schools, offices and museums around Australia. As a child, it didn't make sense to me that we had the internet and powerful technologies, but robots weren't part of helping humans in their everyday lives.

Aubot's first robot is a telepresence robot called Teleport which allows users to teleport to where they need to go, instantly. A student sick in hospital can go to school remotely, or an art lover can visit a museum on the other side of the world. It's a video phone on wheels remotely controlled by the caller, with motors to drive it and a height adjustable body supporting a tablet and speaker system. The tablet displays the caller's face and has mechanisms to avoid getting stuck, and even to drive it back to a charging dock.

Maths is crucial to engineering the robot and also making our robots safe and for example not toppling someone over. It helps us develop manufacturing specs so the robot can withstand bumps and damage, and keeps the communications working and reliable.

I started Robogals at university, because there were only four other girls studying my engineering course with me. It's grown into an international organisation that has delivered robotics workshops to over 70,000 girls.

THE UNIVERSITY OF MELBOURNE

School of Mathematics and Statistics

Turn your research project into a **research degree**

Study a Master of Science

Our Graduate Research Pathway secures your place from masters through to PhD. Build your research career from the beginning, knowing with certainty where you're heading.

If you have an eligible weighted average mark, your course offer for the Master of Science (Mathematics and Statistics) will also include a conditional offer for a PhD place – along with a guaranteed PhD scholarship.

Focus on your masters and transition straight into a PhD, without the stress of reapplying.

Find out more: science.unimelb.edu.au

TABLEAU CONSULTANT

GRIT / Brisbane / Full Time

We are working with a specialist consultancy, who helps develop BI and Data based solutions for their clients. As a Microsoft Partner, this business will focus mostly on the Microsoft toolset, and this role in particular will be focused on Tableau.

What you will bring to the role:

- Strong experience with Tableau
- Knowledge of Alteryx
- Solid SQL skills
- Previous work in a consulting role would be ideal
- Strong communication and collaboration skills

#programming skills, #mathematics #machine learning #statistics #data science #predictive models #data analytics

GAME DESIGNER

Huxley Associates / Brisbane / Full Time

Our tech unicorn is after a Game Designer to join their team on a 6 month contract with a view to extend. The project is Greenfield, working with a well-established team of developers, designers and artists.

Requirements

- Degree in game development
- Mobile game design contributions
- 3+ years of game development experience
- Game monetisation experience
- C#, C++ or JavaScript experience
- Experience with front end development
- Understanding of game design
- UI experience
- STEM background
- Team player

If you are interested in discussing this role further please reply to me ASAP with your most up to date CV and I will follow up with a chat about these roles, alternatively if you know anyone who may be interested in this position please feel free to forward me their details.

#designer #development #game physics #game engine #science

CAREERS IN MATHS

GROW YOUR CAREER WITH
MATHS & STATS

LEVEL 1

ACCESSIBLE THROUGH YEAR 12 COMPLETION OR CERTIFICATE I / II

Bank Teller | Bartender
Debt Collector | Hospitality Worker
Insurance Agent | Payroll Officer
Retail Buyer | Sales Assistant
Trades Assistant

LEVEL 2

ACCESSIBLE THROUGH DIPLOMA OR CERTIFICATE III / IV

Aircraft Maintenance Engineer
Draftsperson | **Biomedical Technician**
Construction Manager | **Cartographer**
Civil Engineering Technician
Computer Technician | Data Processor
Electrician | Insurance Clerk
Laboratory Worker | Line Mechanic
Mechanical Technician | Personal Trainer
Procurement Manager
Production Manager | **Telco Engineer**

LEVEL 4

ACCESSIBLE THROUGH BACHELOR DEGREE & POSTGRADUATE

Actuary | Aeronautical Engineer
Auditor | Astrophysicist
Bioinformatician | Biomedical Engineer
Biostatistician | Chemical Engineer
Civil Engineer | Data Scientist
Economist | Electrical Engineer
Environmental Engineer
Financial Analyst | **Forest Scientist**
Football Analyst | **Geologist** | Geomatics Engineer | **Geophysicist**
Geospatial Specialist | **Mechanical Engineer**
Marine Engineer | **Mathematician**
Meteorologist | **Mining Engineer**
Naval Architect | **Neurosurgeon**
Operations Research Analyst
Quantum Physicist | Quantitative Analyst
Risk Analyst | Research Scientist
Roboticist | Statistician | **Supply Planner**
University Lecturer | **Zoologist**

LEVEL 3

ACCESSIBLE THROUGH BACHELOR DEGREE

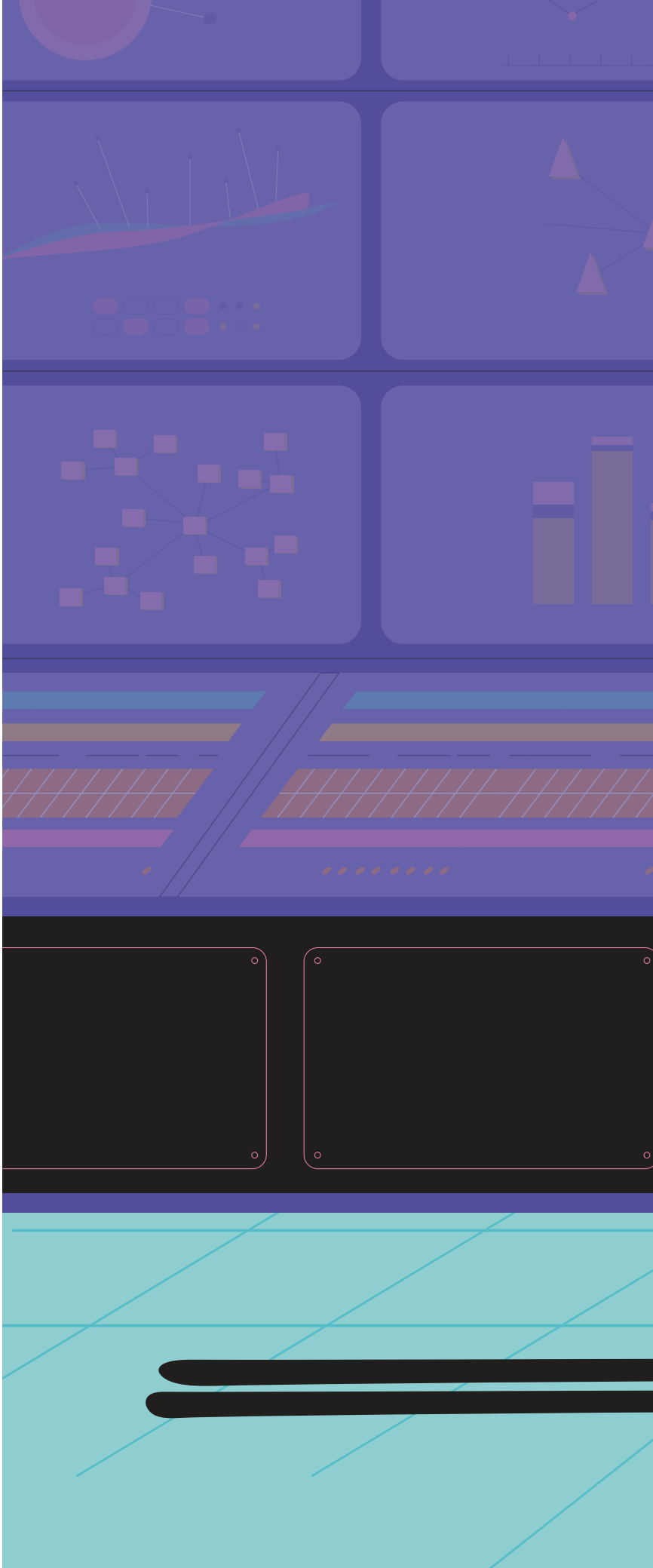
Accountant | Air Traffic Control Analyst
APP Developer | Architect
Biotechnician | Business Analyst
Computer Systems Analyst
Commercial Underwriter | **Cryptologist**
Data Analyst | **Ecologist** | Game Designer
Industrial Designer | Insights Analyst
Marine Surveyor | Marketing Analyst
Nurse | Optometrist | **Pharmacist**
Pharmacologist | **Pilot** | Quantity Surveyor
Software Engineer | Systems Analyst
Teacher | Web Analyst
Web Developer | Veterinarian

From personal banking and investment apps to wearable payment devices, quantitative techniques and the emergence of financial technologies or—FinTech—has transformed financial services.

Advancing technology means automation and emerging opportunities with big data, mathematics and statistics skills are in demand across the finance and banking sectors.

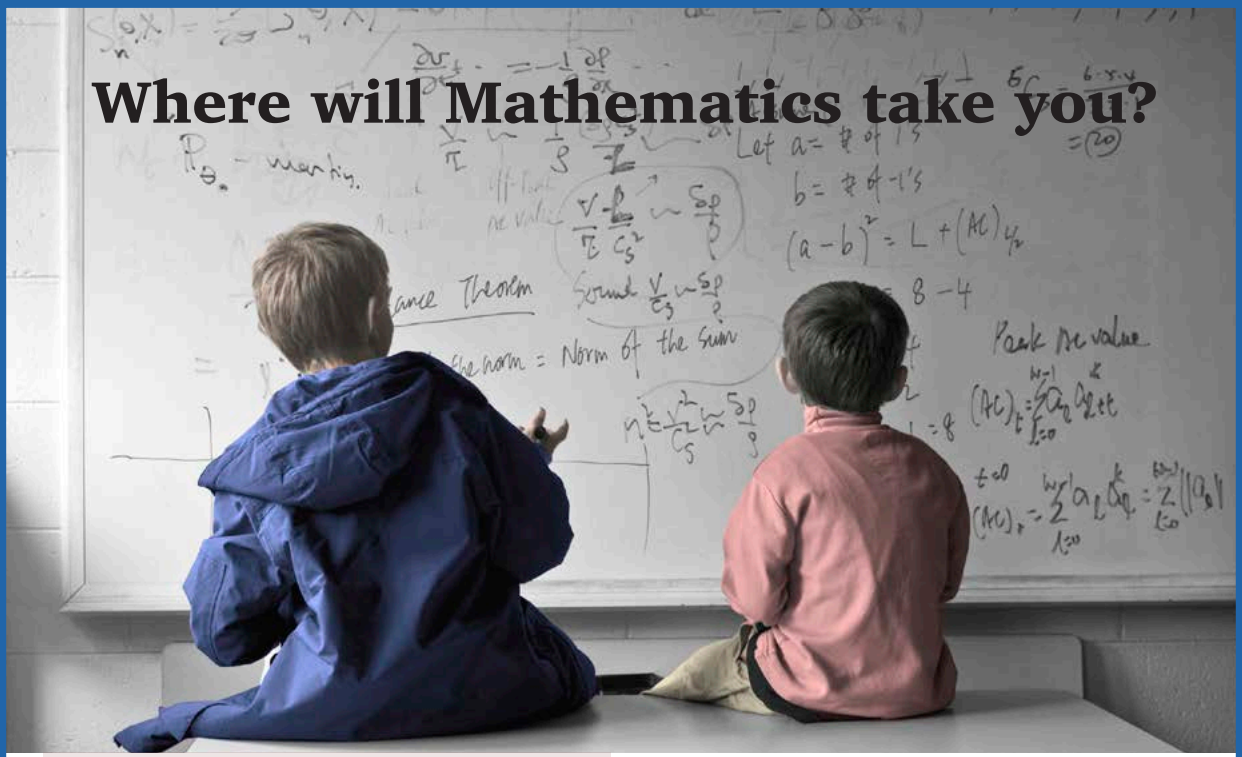
The rise of cryptocurrencies like Bitcoin has put blockchain technology in the spotlight with advances in this area opening more uses across the financial sector. While the media hype around Bitcoin may have subsided, digital currency is here to stay.

Digitalisation and technology advancement has resulted in greater focus on data security and protection of personal information. Companies are turning to graduates with mathematics and data analysis skills to protect their online assets.



FINANCE & MONEY

Where will Mathematics take you?



"Young people must come to see science and math degrees as key to opportunity. If we fail at this, we won't be able to compete in the global economy" – Bill Gates

Mathematical Skills Can Make All The Difference: you will develop general skills in problem solving, critical thinking, modelling, analysis, research, and creativity, which can be used wherever your career may take you.

CAREER OPPORTUNITIES

Actuary
Banking and Finance
Biostatistician and Public Health
Communications Specialist
Computer Analyst
Computer Programmer
Cryptologist
Data Analyst
Defence
Film Industry Special Effects
Financial Analyst
Genetics
Market Research
Mathematical Modeller
Mathematical Physicist
Medical Research/ Science
Operations Research Analyst
Science Journalism
Statistician
Teacher
University Lecturer

Study Programs
The School of Mathematics offers undergraduate and postgraduate programs in:

- Applied mathematics
- Financial and insurance mathematics
- Mathematical statistics
- Pure mathematics

Undergraduate Studies
Students can study topics from a range of areas in mathematics, including:

- Algebra and number theory
- Geometry and partial differential equations
- Mathematical physics
- Statistical techniques and applications
- Probability
- Financial mathematics
- Stochastic processes
- Operations research

These can be combined with studies from other areas including engineering, commerce, IT, law and arts. Mathematics is commonly taken with other science areas of study.

Further Information
Monash University Undergraduate Handbook
handbook.monash.edu

Enquiries
School of Mathematics
9 Rainforest Walk, Monash University, Victoria, 3800
Telephone: 03 9905 4465
Email: sci-maths-enquiries@monash.edu

MONASH University

For more information on studying mathematics at Monash visit **maths.monash.edu**

MARKETING INSIGHTS ANALYST

Bluefin Resources Pty Ltd / Sydney / Full Time / $115K–$125K

The Company

A major Australian Brand in Consumer Finance and Everyday Banking are looking to support and advise their Marketing partners on compliance and support initiatives through direct marketing and digital channels. They have a brand new opportunity for a Marketing Support Analyst - to join their Consumer & Business Marketing Analytics team to support the business partners and customers to deliver efficient, accurate and relevant customer communication programs.

The Role

Reporting into a passionate Marketing Support Manager your role will focus on providing trusted information, analysis, actionable insights and advice to internal customers and business partners.

Key Responsibilities

- Support and advise Marketing partners on their compliance / support initiatives through direct marketing and digital channels
- Strengthen the team's information and analytical approach to provide business partners and customers with self-serve information, efficient outputs and execution
- Infuse information and analytics across the business to unlock value from the company's data and analytics assets
- Partner with the business teams and customers to deliver efficient, accurate and relevant customer communication programs which uphold the legal and compliance requirements
- Consult on best practice in process, operations and optimising efficiencies

About You

- Degree in relevant areas such as IT, Maths, Statistics, Econometrics, Marketing Information Systems or Finance
- A minimum of 2-3 years' experience in Direct Marketing or Lead Management and customer targeting
- Minimum 2 years' experience in advanced SQL and large scale RBDMS (Teradata)
- Experience with campaign management software (SAS MA/MO Teradata)
- Experience in using Payments Plus would be highly advantageous
- R/Python Programming experience highly desirable Customer contact management principles (desirable)
- Extensive knowledge of various analytics and problem-solving techniques
- Marketing processes and procedures including marketing and data briefs (desirable)
- Database marketing principles and practices (desirable)

#analytics #econometrics #analytical approach #insights #marketing #statistics

OKAY

SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

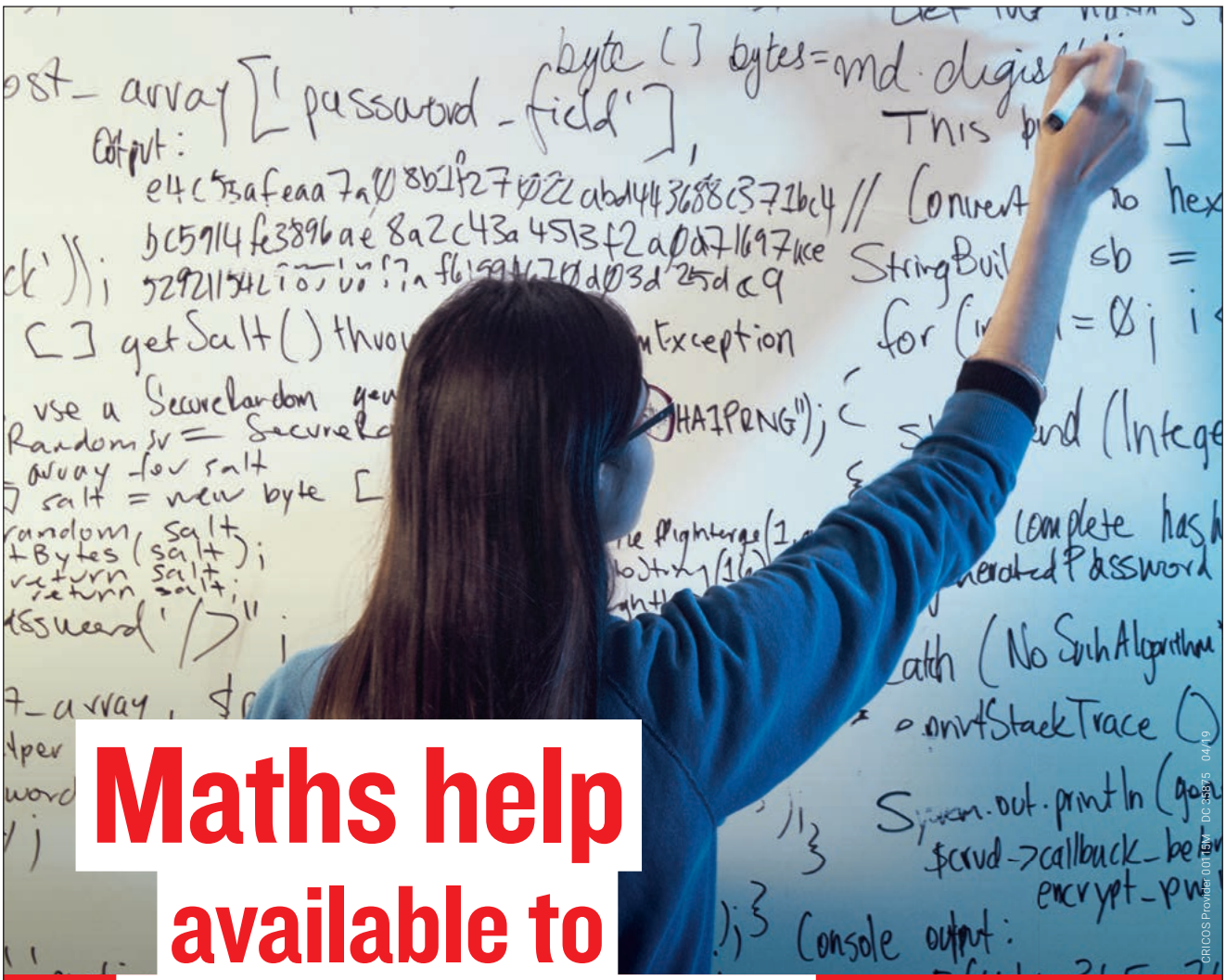
- STATISTICS
- LINEAR ALGEBRA
- CALCULUS
- MODELLING
- PROBABILITY

THE JOBS

- BANKER
- TRADER
- ECONOMIST
- ACTUARY
- RISK ANALYST
- ACCOUNTANT
- QUANTITATIVE ANALYST

THE EMPLOYERS

- BANKS
- RESERVE BANK OF AUSTRALIA
- LARGE CORPORATES
- ACCOUNTING FIRMS
- INVESTMENT COMPANIES
- INSURANCE COMPANIES
- TREASURY DEPARTMENTS



Maths help available to every student. That's clever.

Our Maths Hub is available for face-to-face maths and statistics support to help La Trobe students succeed in their coursework.

latrobe.edu.au/maths

LA TROBE UNIVERSITY

All kinds of clever

> STARTING OUT, YOU HAVE NO IDEA WHAT ROLES ARE OUT THERE; BE OPEN TO OPPORTUNITIES THAT MATHS PROVIDES. GETTING THE FIRST JOB IS THE HARDEST.

JANE MCCARTHY

Data Analyst / Data Scientist – ANZ Bank

My job revolves around making sure that data is used effectively in supporting business decision making across the consumer banking portfolio. It also impacts the client experience through determining how to accelerate workflows and processes that reduce time taken in making decisions, for example in assessing lending applications. I ensure that the data analytics required to do this are available.

Statistical modelling and propensity forecasting are core to this function, as well as using algorithms in a marketing sense to predict consumer behaviour. I'm using and interpreting numbers all the time.

At school, I loved mathematics, and a for a long time I wanted to be a maths teacher. The idea that you could problem solve to figure out the right answer always appealed to me.

My undergraduate studies were in Maths and German as a Bachelor of Science / Bachelor of Arts double degree program at Monash University. After gaining graduate entry to the ANZ Bank I did a Postgraduate Certificate in Statistics at Swinburne, and later a Master of Business Analytics degree at Deakin University.

A career highlight for me was spending a year working for a bank in the Netherlands. Today I'm focused upon leading my team and formulating strategy, but I haven't lost my love of maths.

SENIOR QUANTITATIVE ANALYST, MODEL RISK

Bluefin Resources Pty Limited / Sydney / Full Time

- Leading Australian Bank
- Attractive Remuneration on Offer
- Newly Created Position in the Model Risk Team

Responsibilities:

- Provide oversight, insight and control in relation to prescriptive models used across risk classes
- Perform independent validations to challenge these models' scope of application, implementation, data and documentation
- Ensure models meet policy and regulatory requirements
- Build up appropriate validation code library for prescriptive models
- Assist in the production & presentation of validation reports for senior management

Requirements:

- Excellent tertiary qualifications in an Applied Mathematical discipline i.e. Statistics, Mathematics, Physics, Engineering, Actuarial etc
- At least 2 years' experience in a quantitative function, preferably within the financial services industry
- Programming capabilities in R, SAS, Python or equivalent

#applied mathematics #engineering #statistics #quantitative function #prescriptive models

FINANCIAL ANALYST

On Q Recruitment / Hourly rate: $47

- Work in a fast paced, high volume Federal department
- Opportunity to strengthen your financial analysis experience
- Potential for further extension for the right candidate

Our client is a government organisation that ensure the safety of the Australian public. Their financial division is looking for a financial / data analyst with experience in the accounts receivable/ payable field to join their team to help with the development of a new system of reporting.

The key responsibilities of the role would include:

- Working directly with the senior staff in the section to develop an analytical system to generate reports on various factors within the section
- Reviewing data from within the section to identify trends
- Assisting in the quantification of KPIs within the team, and developing a system to issue reports on them
- Assist with the section's day to day financial work (accounts receivable)

Requirements:

- A background in a financial setting (AR/AP is beneficial)
- A tertiary degree in mathematics (statistics preferably), economics, actuarial science or related degree
- Strong Communication and Attention to detail Previous government experience is desirable, but not required
- Australian Citizenship

#statistics #financials #analyst #economics

DATA ANALYST/TECHNICAL BUSINESS ANALYST

Finite IT Recruitment Solutions / Sydney / Contract

Our client is looking for a Technical Business Analyst who will have exceptional communication and strong **business analysis skills**. You naturally build strong relationships with Stakeholders and are able to dive deep in investigating the WHY.

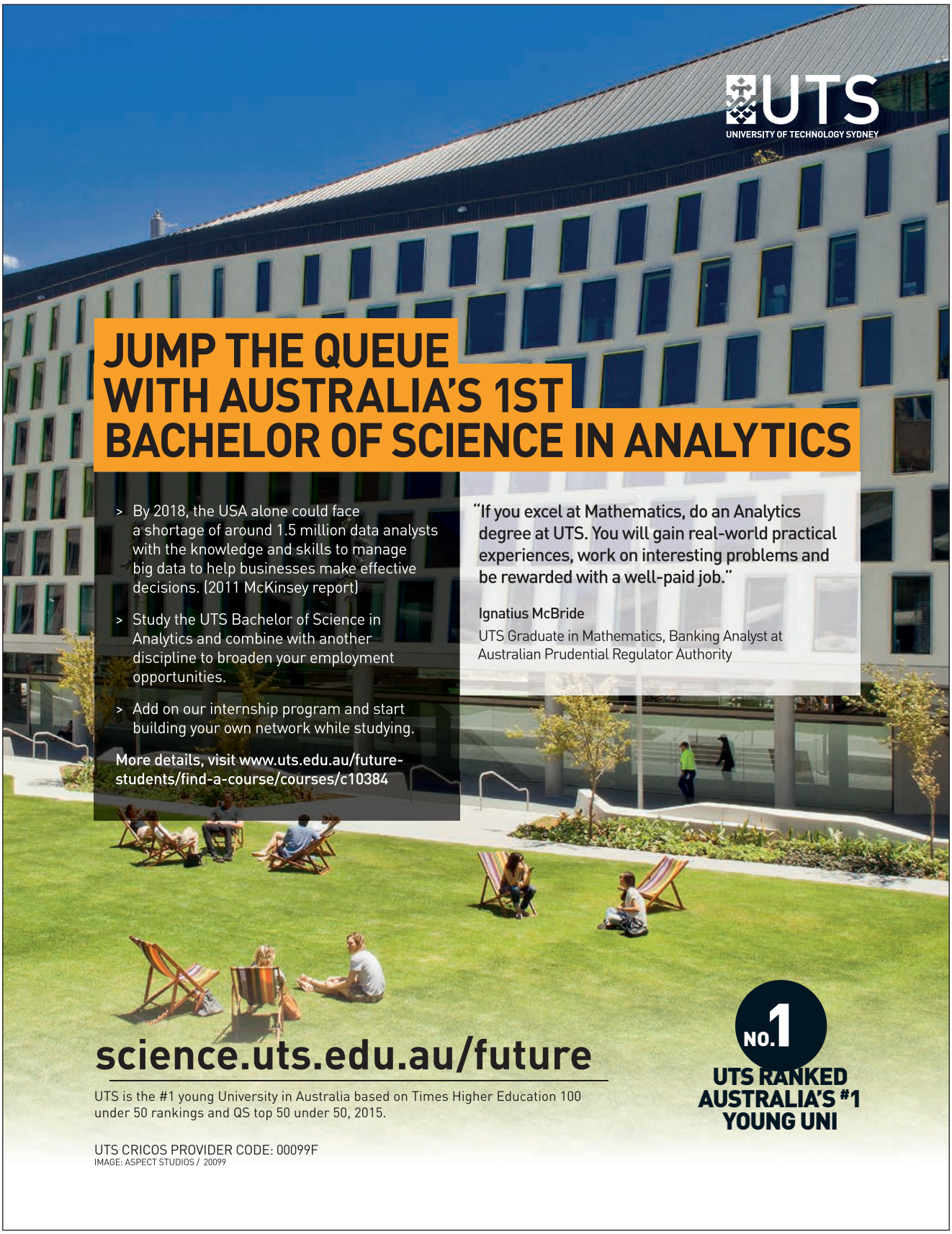
You will be confident in the below:

- Elicitation and documentation of business requirements into Agile stories including functional specifications, data lineage and user acceptance criteria
- Testing of delivered solutions to confirm user acceptance criteria is met
- Design SQL Server DDL to store data for consumption by the business bank finance team
- Use SSIS to extract from existing data sources, transform to implement functional specifications and load into target database the data set required to support data visualisation
- Implementation of an automated batch scheduling, error trapping and alerting solution to orchestrate data refresh of the solution
- Delivery of a strong design summary document that can be utilised to support the platform ensuring corporate knowledge of the platform is retained
- Strong understanding of home lending and mortgage process

You will have:

- 5+ years relevant experience in a similar level
- Proven experience as a SSIS, SQL Server database developer OR Technical Business Analyst working on **data modelling** and analytical style projects
- Familiarity with **data integration**, data storage, data processing, business intelligence and **analytics** technologies
- Conceptual and analytical capacity to understand information system and business operational issues to thoroughly analyse and evaluate critical systems matters
- Possess working knowledge of management reporting systems and business intelligence concepts
- Excellent proficiency in translating and analysing data
- Be proactive and have a strong drive to succeed within a dynamic & fast paced environment
- Experience in **big data** projects and technologies

#data integration #data storage #data processing #business intelligence #analytics technologies #big data #data orchestration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WITH AUSTRALIA'S 1ST
BACHELOR OF SCIENCE IN ANALYTICS
> By 2018, the USA alone could face a shortage of around 1.5 million data analysts with the knowledge and skills to manage big data to help businesses make effective decisions. (2011 McKinsey report)
> Study the UTS Bachelor of Science in Analytics and combine with another discipline to broaden your employment opportunities.
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More details, visit www.uts.edu.au/future-students/find-a-course/courses/c10384
"If you excel at Mathematics, do an Analytics degree at UTS. You will gain real-world practical experiences, work on interesting problems and be rewarded with a well-paid job."
Ignatius McBride
UTS Graduate in Mathematics, Banking Analyst at Australian Prudential Regulator Authority
science.uts.edu.au/future
UTS is the #1 young University in Australia based on Times Higher Education 100 under 50 rankings and QS top 50 under 50, 2015.
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IMAGE: ASPECT STUDIOS / 20099

STATISTICAL ANALYST

Commonwealth Bank / Sydney / Full Time

- We use insights to improve fairness for our customers
- You are a Statistical Analyst looking for work that matters
- Together we can deliver simpler and better outcomes

Your skills in statistics, text analysis, general data analytics and modelling will be at the centre of the team's diagnostics work. You will help conceptualise, design and build new data-driven tools and business knowledge that help us build a better bank for our customers.

See yourself in our team?

The Insights team discovers new ways to improve access and fairness for customers through data analysis and independent research. We also support front-line case managers and data practitioners with tools to help identify and support customers in potentially vulnerable circumstances.

Do work that matters

Use your analytical and modelling expertise to identify potential latent risks to customer outcomes thus eliminating or reducing poor customer outcomes. A key focus is also to design experiments/pilots to understand customer behaviour, leveraging internal and external data sources - including large unstructured text fields.

What will help you succeed in this role?

We expect you have excellent knowledge in tools such as SPSS, SQL, Python, R and high level of proficiency with Excel. You are confident with statistical techniques such as linear and logistic regression on large data sets and you feel comfortable delivering complex analytics, including from unstructured text sources, and presenting data analysis to senior stakeholders and non-technical audiences. Your previous experience involving analysis (e.g. credit risk, marketing, product analytics) will help you succeed.

#statistical techniques #complex analytics #modelling #data driven tools #text analysis

SENIOR FRAUD ANALYST

Bluefin Resources Pty Limited / Sydney / Full Time

- Leading Australian Bank
- Close to public transport links
- Market leading remuneration

In this role you will be involved in collecting, analysing and modelling data which relates to financial crime, information security & security risks. This includes involvement in investigating incidents through data mining and analysis, researching financial crime, information security and security related trends and emerging issues, and identifying triggers to alert suspicious behaviour.

Duties would include;

- Identify patterns & characteristics within data to drive the development of fraud mitigation strategies
- Optimisation and development of new detection scenarios
- Utilise statistical modelling/machine learning to drive predictive capability
- Work with key business partners to improve detection performance

Requirements:

- A degree in a numerate discipline such as Statistics, Mathematics, Actuarial Studies
- Programming skills in either SAS, R, SQL or Python
- 2+ years commercial analytics experience
- Experience manipulating and mining large datasets to draw insights
- An interest in games such as chess, poker or blackjack would be beneficial - a similar thought process goes into solving financial crime
- Strong communication skills

#statistics #actuarial studies #data mining #datasets #commecial analytics #data modeling #analytics

These days it is difficult to imagine a world without emails, online banking, social media and the convenience of click and collect. Our lives are increasingly lived and managed online.

We pay a price for convenience and efficiency though, with high volumes of personal data stored and mined. This information is valuable leaving us vulnerable to cybercrime, systemic failure and data corruption. In a high profile example, the Australian Government were victims of a successful sabotage of Australia's 2016 online census.

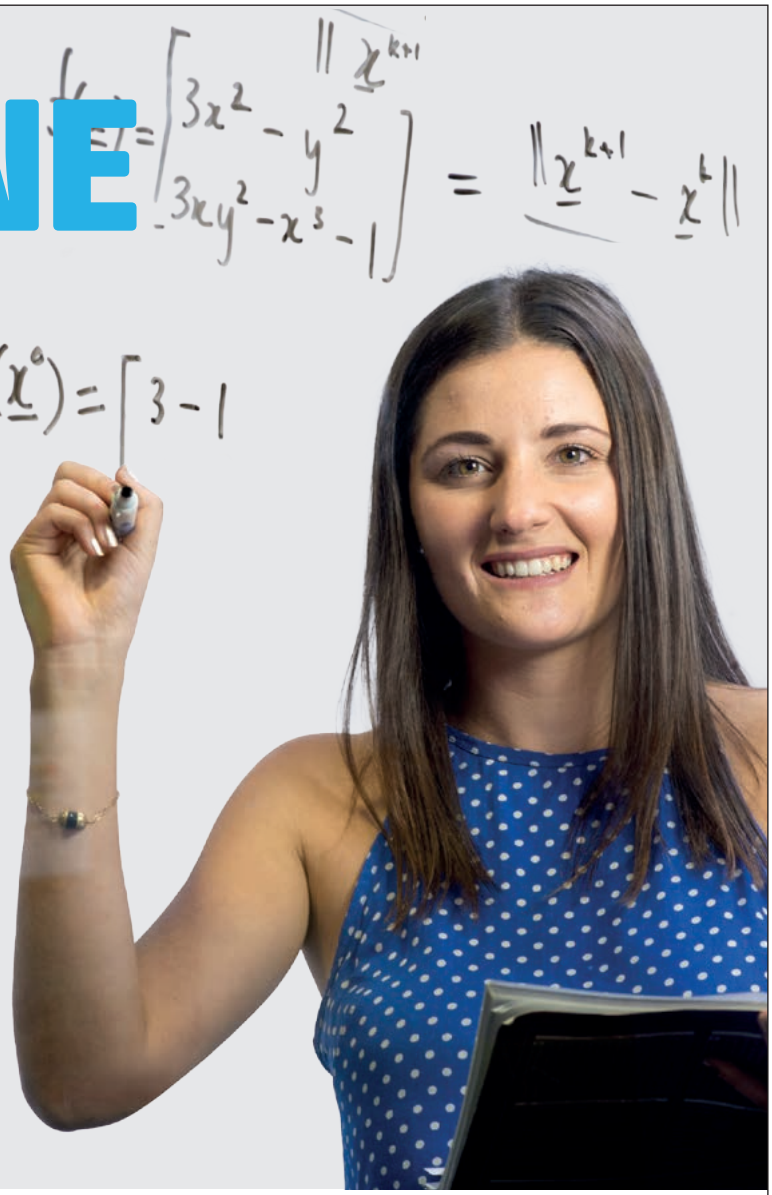
The Government is not alone, recent reporting showed over 60 per cent of Australian businesses experienced security breaches in 2016. This number is set to soar with the increasing scale and sophistication of cyber attacks.

From big and small business to defence, cyber security has become a billion dollar growth industry. This has seen graduates skilled in mathematics and statistics top recruitment wish lists as companies seek to keep ahead and build capability.

Your computer science, programming and mathematics and statistics skills may be the best weapon as we seek to secure the country from online and operational threats.

SECURITY & DEFENCE

BE ONE OF A KIND



THE UNIVERSITY OF NEWCASTLE AUSTRALIA

ERA 5
well above world standard for Applied Mathematics and Statistics[1]

Without maths, interpreting the real world would not be possible. Mathematics is the language of science and underpins most technological advances that we rely on every day.

The University of Newcastle offers one of the few specialised mathematics degree programs available in Australia. You can study a Bachelor of Mathematics, or our new Bachelor of Mathematics (Advanced).

Should you be looking to expand your career options in the future, we also offer a range of postgraduate degrees in growth industries such as Data Science, Data Analytics and Integrated Science, Technology, Engineering and Mathematics.

If you're keen to be part of a community of like-minded mathematicians who will mentor you and provide you with hands-on learning support throughout your studies, explore our study options and discover what excites you most.

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DATA ANALYST / ECONOMIST

Department of Employment, Skills, Small & Family Business / ACT / Full Time / $69,596 - $94,995

The successful candidate for the Economist position is expected to contribute to the overall work of the Labour Economics Section, with emphasis on economic research and modelling at the aggregate (macro-economic) level. The successful candidate is also expected to have sound knowledge of the Australian economy and labour market, including employment and workplace relations policies.

Candidates should possess one or more of the following skills, knowledge or experience in:

- Demonstrated experience in undertaking quantitative research, including literature review, data gathering and cleaning, descriptive and econometric analysis, along with writing high-quality briefing/academic reports and presenting findings
- An understanding of one or more of the following: economics, behavioural or related social sciences, research analytics or methodologies. This could include conducting fieldwork, qualitative and/or quantitative analysis, developing survey tools or behavioural interventions
- Well-developed written and oral communication skills, including the ability to liaise effectively with stakeholders and to build and maintain productive working relationships
- Ability to contribute to high quality advice for the Government on the Australian economy and labour market
- Ability to take the initiative to complete tasks to a high level, to assist in and/or lead supervision and development of junior staff, to work cooperatively as a member of a small team, and to manage work effectively to complete tasks with tight deadlines
- Demonstrated proficiency in one of the statistical packages (SAS, Stata, R, EViews, TSP International or other closely related programming languages) used for quantitative analysis. Experience in data visualization tools such as Qlik, Tableau or Power BI is preferred but not mandatory. Experience with Microsoft Excel is required, while experience with Microsoft Excel macros, macroeconomic modelling or administrative data would be an advantage

Qualifications/Special Requirements:

Essential - Relevant tertiary qualifications or work experience in a discipline related to, one or more of the following: behavioural economics, economics, econometrics and analytics, or research methodologies.

#statistics #statistical packages #research analytics #macroeconomy modelling #qualitative analysis #quantitative analysis

DATA SCIENTIST

First People Recruitment Solutions Pty Ltd / ACT / Contract

The successful applicant would play a key technical role supporting a number of ongoing research projects. We are seeking a highly motivated professional with demonstrated experience in the development and maintenance of large statistical models and a strong familiarity of both R and Python.

Essential Skills

- Experience in the development, maintenance and application of large statistical models
- Advanced programming skills in R (particularly the data.table and mlr packages) and Python (particularly the pandas package)
- Experience working with development processes/environments (including git version control)
- A degree in Statistics, Economics, Computer Science or related discipline

Desirable Skills

- Domain knowledge of the agricultural sector
- Experience in the application of econometrics and/or machine learning algorithms for applied research
- Experience with data visualization software such as Tableau Experience working with large spatial climate data sets (including observation data and future projections)
- Programming experience in SAS and familiarity with Linux

#data science #statistical models #statistics #data visualization

OKAY

SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

- PROBABILITY
- STATISTICS
- ALGEBRA
- CALCULUS
- MODELLING
- OPTIMISATION
- MACHINE LEARNING

THE JOBS

- FORENSICS ANALYST
- FRAUD ANALYST
- CRIMINOLOGIST
- NETWORK DESIGNER
- CRYPTOGRAPHER
- SECURITY ENGINEER
- NETWORK ANALYST
- PROGRAMMER

THE EMPLOYERS

- BANKS
- INSURANCE COMPANIES
- GOVERNMENT AGENCIES
- POLICE FORCES
- DEFENCE
- TECHNOLOGY COMPANIES

“MATHS IS THE LANGUAGE OF THE UNIVERSE. MATHS GIVES YOU THE TOOLS YOU NEED TO ANALYSE, PREDICT AND UNDERSTAND THE WORLD AROUND YOU. BY GROWING AND NURTURING A MATHEMATICAL MIND, YOU OPEN YOURSELF UP TO ENDLESS OPPORTUNITIES.”

PROFESSOR TANYA MONRO

Chief Defence Scientist - Department of Defence

DATA SCIENTIST / STATISTICIAN

face2face Recruitment / ACT / Contract

About the Role:

Our client is for a Data Scientist / Statistician to fill a specialist role in its Performance and Resource Economics Branch. The role is likely to be for approximately 6 months initially but may be extended.

Essential Skills

- Experience in the development, maintenance and application of large statistical models
- Advanced programming skills in R (particularly the data table and mlr packages) and Python (particularly the pandas package)
- Experience working with development processes/environments (including git version control)

Desirable Skills

- Domain knowledge of the agricultural sector
- Experience in the application of econometrics and/or machine learning algorithms for applied research
- Experience with data visualization software such as Tableau
- Experience working with large spatial climate data sets (including observation data and future projections)
- Programming experience in SAS and familiarity with Linux

#statistics #statical models #econometrics #machine learning #data visualization #data science

PROGRAM SUPPORT / DATA ANALYSIS

onpoint 365 / ACT / Contract

Our Federal Government client is seeking multiple APS5 Program Officers to support program monitoring work in WHS incident management, insurance projects and data analytics

About the role:

- Incident data entry
- Manage, investigate, monitor and report on WHS incident notifications
- Data management, analytics and reporting
- Respond to enquiries, draft reports and correspondence Secretariat functions

Ideally, you will have:

- Previous APS experience in a similar role
- Strong communication skills including ability to undertake research, present information and write reports
- Ability to analyse and interpret data
- Strong attention to detail

Desirable:

- Experience in data analytics
- Experience in WHS or worker's compensation

#data analytics #data interpretation #data management #data science

SECURITY DATA ANALYST

onpoint 365 / ACT / Contract

Our Federal Government Client is seeking Security Data Analyst at the APS6 to EL1 level, to join their team working on a security reform project to deliver a range of security initiatives.

About the role:

- Deliver Security Governance Framework to support policy and procedures
- Implement & update Security Plans and Assessment Tools Deliver security training and communication campaigns
- Clear forms/processes/workflows that support the recording of security matters
- Interpret complex data and sound Microsoft Excel skills
- Working on a security data repository sourced from several agency systems

Ideally, you will have:

- Advanced Microsoft Excel skills (V lookups, pivot tables, data import and manipulation) is essential
- The ability to deliver reporting to line areas and develop reports for senior executives
- The ability to draft SOPs and instructional material
- The ability to understand or pick up quickly Protective Security Policy Framework
- Current NV1 security clearance or ability to obtain is essential

#data manupulation #data analytics #security governance #data science #data security

DATA ANALYST

onpoint 365 / ACT / Contract

About the role:

- Undertaking data analytics, data modelling, data mining, code optimisation and data integration techniques
- Writing complex SQL queries to manage, manipulate and automate complex data feeds
- Undertake activities to assist with fraud detection Using Power BI to build a data visualisation platform

Ideally, you will have:

- At least 3yrs experience developing data visualisations in Power BI for analytical use cases
- Strong technical proficiency with programming /scripting/data wrangling skills such as R, python, scala, powershell, bash
- Demonstrated experience with databases/systems such as SAP, Terdata, Hadoop, MS SQL and graphing databases such as Neo4j
- Experience with Azure/ AWS Cloud is desirable

#data analytics #data wrangling #data mining #data integration #data visualisation

DATA ANALYST

First People Recruitment Solutions Pty Ltd / ACT

Our Federal Government client responsible for national policies and programs that help Australians access quality education, vocational education and training, international education and research have multiple vacancies for Policy Officers, Data Analysts, Stakeholder Engagement Officers and Communication Officers to work in the section responsible for improving Australia's Vocational Education and Training

(VET) sector. Its work includes improving availability of training to match industry skill needs and improving the quality of training.

Required capabilities include;

Data analyst: High level APS6 Data analyst that can analyse data holistically, write clearly and concisely and frame analysis around complex policy (not data extraction). Experience in pricing/funding modelling or labour market analysis may be an advantage.

Senior Policy Officer: EL1/High performing APS6 that can write policy documents clearly and concisely and produce high quality and timely written advice for senior executives. Experience in program (contract) management may be an advantage.

Stakeholder Engagement Officer: EL1/High performing APS6 with strong stakeholder engagement skills, ability to produce high quality and timely documents for a range of audiences. Good social skills to build productive and collaborative relationships with internal and external stakeholders. With the ability to exercise judgement, operate with little supervision, to work to deadlines, to manage workloads and be flexible in responding to changing priorities.

Communications Officer: Two (2) High performing APS6 with high level written and verbal communication skills, ability to produce high quality

#data analysis #funding modeling #labour market analysis #data science

DATA SCIENTIST / STATISTICIAN

HorizonOne Recruitment / ACT / Contract / $55–$60 per hour

The Opportunity:

This is a unique opportunity for you to work within the research arm of our client's department. It is a chance for you to make the jump from academia or commercial roles or extend your existing APS career. The EL2 leading the team wrote the model you will be working on and will be able to assist you with any questions you may have when you start. The team enjoys having a chat especially about anything in the 'nerdy' domain.

The Role:

This role is for an initial 6-month period with a strong likelihood for extension. You will be focusing on the maintenance of the existing model as well as developing new apps and extensions. The model is integral to a broad range of research that depends on the integrity and interpretation of the data.

Your day to day duties will include:

- Data modeling and maintenance
- Development of extensions and applications for the use of end users
- Generating publication ready tables and data visualisations.

The Person:

Ideally, you will have a strong academic background in data science, statistics or economics. You will bring your strong R and python coding skills to contribute to the app development aspect of the role and your version control and organisation are top notch. You are a self-motivated person who is comfortable working without a lot of oversight and are happy to collaborate with your team, however you won't be required to present to stakeholders. Any previous research or experience in the agriculture industry will be highly regarded.

#data visualisation #data science #statistics #data modeling #economics

> “IT MIGHT SURPRISE PEOPLE THAT I DON'T LIKE DOING MATHEMATICS AND I'M NOT NATURALLY GOOD AT IT, BUT AT THE DEPARTMENT OF DEFENCE I GET TO WORK WITH REALLY INTERESTING ADVANCED TECHNOLOGIES AND IT'S CHALLENGING IN NATURE.”

JASLYN GRAY

Robotics Engineer – Department of Defence

My work is focused on developing and utilizing aircraft diagnostics systems, supporting the Australian Defence Force by keeping aircraft flightworthy and combat ready.

I use robotic systems to look for damage in composite structures with aerospace applications. This can involve using a UAV or drone to overfly a parked aircraft, enabling rapid inspection. Using these technologies minimises downtime and enables our team to determine airworthiness more efficiently that through the traditional routine inspections.

This involves applying maths through trajectory planning and interpreting accelerometer data from moving robots and UAVs. I use this in modelling and software applications. The sciences of signal processing and computational modelling have their fundamentals in mathematics.

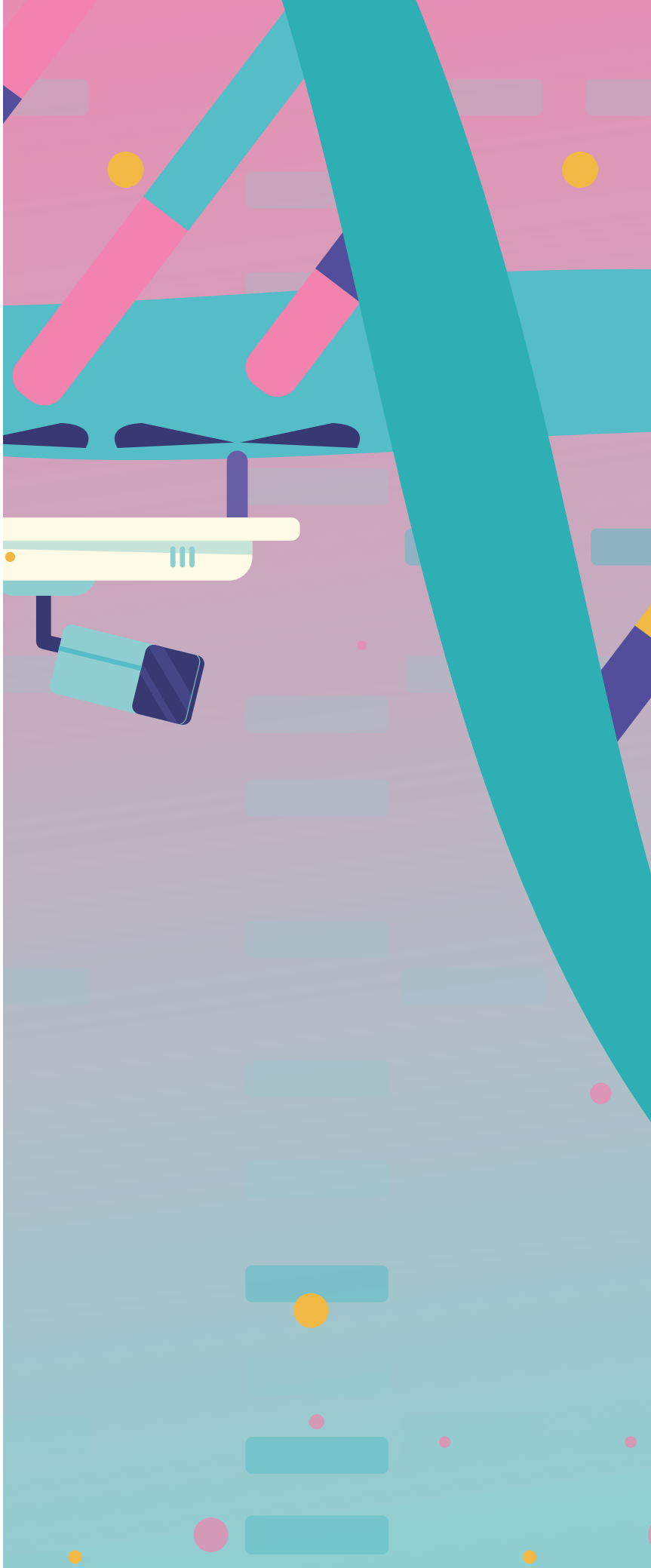
I like that I’m still learning new things every day, further developing my skills acquired at school and university.

The human body is a complex and mysterious machine. Every cell of our body contains the blueprint for life, encoded within the DNA molecules of the genome. The challenge is to decode this detailed information to provide new insights into how we can best manage, diagnose and treat disease.

One of the ways we do this is by using mathematical and statistical tools. Known as bioinformatics, this research uses genetic code to understand our bodies and tackle global health challenges such as cancer, heart disease and infectious diseases like malaria and influenza.

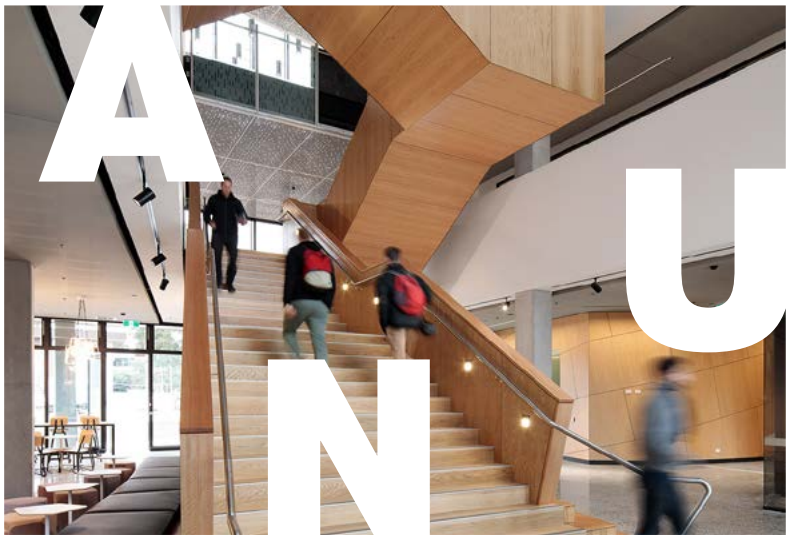
Personalised medicine is the idea that your genetic code should determine the best medical treatment for you and it's one of the fastest growing areas in the medical field worldwide. Each of us metabolises and reacts to drugs differently impacting treatment effectiveness and safety. Modelling a patient's genetics, we can predict how they will respond to different types and doses of medications. Tailored treatment plans reduce the risk of overdose and ineffective medication use, as well increasing wellbeing through fewer side effects.

Maths and data science are essential tools to unlock the secrets of big data and interpret measurements and experiments. With rapidly advancing technology and the rise of precision healthcare, demand for graduates with these skills is soaring.



BIOSTATISTICS & BIOINFORMATICS

Australian National University



> Maths can be applied to so many pressing problems and opens so many doors. Applying my quantitative skillset to unravel real world problems has been very satisfying.

Yunfei Ouyang, BMathSci graduate

Follow your passion for maths in Australia's highest ranked university

Mathematics plays a vital role on the growth of science and technology, making it the fastest growing field in STEM disciplines.

Our innovative research and teaching facilities, with internationally-recognised academic staff and ground-breaking research in a variety of topics will enable students to master quantitative problem-solving, mathematical modelling and critical thinking.

Come and explore why we are the best place to study maths in Australia.

Find out more **maths.anu.edu.au**

Why study mathematics at ANU?

- Ranked #1 in Australia for Mathematics (2019 QS World University Rankings).
- Access to tailored research courses as part of the degree.
- Classes among the smallest of Australia's top ranked universities.
- Wide choice of courses and research projects in pure and applied mathematics with some of the best mathematicians in Australia.
- Ability to combine our Bachelor of Mathematical Sciences with another degree from the ANU Flexible Double Degree options.
- Access to facilities in collaboration with the Research School of Computer Science and the Australian Signals Directorate.

BIOSTATISTICIAN

NPS MedicineWise / Sydney / Full Time

- An opportunity to work with a range of health-related data including MBS and PBS data and general practice (MedicineInsight) data
- Get involved in interesting outcomes evaluation and statistical and health economic modelling for our national education programs

Our mission

Independent, evidence-based and not-for-profit, we help people make the best decisions about medicines and other medical choices to achieve better health and economic outcomes.

We provide consumers and health professionals with practical tools and information about medicines, health conditions and medical tests. Our vision is to be an innovative change leader, trusted for our objective, collaborative and evidence-based approach to medicines and other medical choices.

http://www.nps.org.au

Who we're looking for

We believe it's important to be excellent at what we do and to recognise the skills and experience we bring. Our people are passionate about our mission and are invested in our values, so you should be too. We believe that cultural fit is essential to success. These are our values, and they influence how we work together and how we reward our people:

- **Courage** - we have the courage to think and do things differently for a better future
- **Customer centricity** - we meet the needs of our customers by listening, responding to feedback and adding value
- **Collaboration** - we seek connections, share learnings and help each other succeed
- **Integrity** - we are ethical, honest, transparent and open-minded
- **Accountability** - we do what we say we will do

What you'll be doing

In this role, you will be responsible for the planning, implementation and reporting of statistical methods and analysis, to evaluate the impact of NPS MedicineWise programs on medicine and medical test utilisation, medicine adherence and health outcomes. This will include longitudinal data analysis (including interrupted time series analysis), survival analysis and other statistical models. Furthermore, you will develop and apply appropriate methods for epidemiological research projects, drug utilisation surveillance and pharmacovigilance reporting using PBS, MBS, MedicineInsight and other datasets.

It's an opportunity to collaborate with a diverse, cross-functional team to produce meaningful findings to those implementing programs, for reports to Government and scientific publications.

What you will need

- Postgraduate qualification in Biostatistics or Statistics, or a closely related quantitative field
- Demonstrated experience in the collation, evaluation, interpretation and presentation of statistical analyses with statistical programming languages such as SAS and/or R
- Experience in statistical data modelling using time series analysis and/or Bayesian statistics Experience in cleaning, merging and managing large data sets, including implementing various strategies to maximise data quality and integrity
- Ability to work independently and collaboratively in a team environment to achieve project goals
- High level problem solving, analytical and strategic thinking skills
- Excellent verbal and written communication skills

Desirable

- Experience with health-related administrative data such as PBS and MBS
- Understanding of statistical methods and study design in clinical trials
- Understanding of Australian health care system
- Australian citizen willing to undergo baseline security check
- Experience using linked data

What we offer

- Salary packaging
- WorkLife Balance days (available after an initial qualifying period)
- Extra leave during Christmas and New Year
- Flexible working arrangements
- Training and Professional Development opportunities
- Discounted health insurance
- Annual flu vaccinations
- Workplace banking program
- Employee assistance program

Help make Australia more MedicineWise.

For a full position description which outlines the specific role requirements and to see why NPS MedicineWise is such a great place to work, please visit: www.nps.org.au/about-us/careers

We are committed to achieving a diverse workforce and we strongly encourage applications from Aboriginal and Torres Strait Islander people for all our positions.

#bioinformatics #biostatistics #data analysis #big data #statistical analysis #biostatistics #statistical software #statistics #medical #research #health

OKAY SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

- PROBABILITY
- STATISTICS
- GRAPH THEORY
- LINEAR ALGEBRA
- MACHINE LEARNING

THE JOBS

- BIOSTATISTICIAN
- BIOINFORMATICIAN
- SCIENTIST
- DATA ANALYST
- RESEARCHER

THE EMPLOYERS

- MEDICAL RESEARCH INSTITUTES
- UNIVERSITIES
- HOSPITALS
- INSURANCE COMPANIES
- PHARMACEUTICAL COMPANIES
- HEALTH ORGANISATIONS

> “THE ABILITY TO TRACK THE IMMUNE SYSTEM MEANS WE CAN CHECK THE TREND OF IMMUNE CELLS IN PATIENTS WITH CONDITIONS SUCH AS HIV.”

MARZIEH MOGHADAM

Phd Student – La Trobe University

La Trobe University and Australian Mathematical Sciences Institute Winter School 2017 student, Marzieh Moghadam, is well aware of the commercial value of mathematics, particularly within the biomedical sector.

Currently completing a PhD, her research focuses on machine learning and deep learning approaches to optimise cell recognition accuracy. An area of increasing focus as researchers grapple with large volumes of data, this work is maximising capacity to apply this critical information.

“The ability to track the immune system means we can check the trend of immune cells in patients with conditions such as HIV.”

As well as rapid identification and accurate tracking of cancer cell types to improve diagnostics and test treatment effectiveness, Marzieh’s work plays a role in managing immune diseases.

Of significant value to commercial laboratories, Marzieh plans to use her specialist expertise to pursue an industry career as well as mentor others.

“In ten years I see myself as a high-level industry researcher mentoring new employees at all levels,” she says.

Marzieh received a ChooseMATHS Travel Grant to attend AMSI Winter School in 2017

Living in a global community means moving billions of people, goods and services throughout the world. Maths, technology and data analysis is transforming the journey from A to B.

From the clothes you wear to the food you eat, it's likely that things have come from many different places across the world. Maths, data and optimisation are critical to managing this complex string of processes, schedules and networks.

Closer to home, urban living means extra strain on major cities and transport infrastructure such as roads and rail networks. Just moving people to and from school and work every day has become a delicate numbers game as we use mathematics to manage sprawling transport networks.

Companies such as Uber and Amazon know that changing technology and automation open opportunities to transform how they provide services and products. For example, we are already seeing drones replace more traditional delivery services. As they seek to optimise their business model, a workforce skilled in maths and data analysis will be essential to drive many of these changes.


TRANSPORT
& LOGISTICS

75% FASTEST GROWING JOBS

REQUIRE STEM SKILLS

Journal of STEM Education
Volume 12 – Issue 5 & 6, July-September 2011
Effects of integrative approaches among STEM subjects on students learning, Becker, K. & Park, K.

NETWORK CAPACITY MODELLER

Forsythes Recruitment / Newcastle

About the Opportunity:

Australian Rail Track Corporation manage and maintain 8500km of rail across five Australian states. They provide the safe and seamless transit of hundreds of freight and passenger trains across their network, daily. As the champions of rail, ARTC place their customer's needs as their first priority- investing billions of dollars to create a cost efficient, reliable, safe and responsible service. Their commitment to community is reflected in their organisational culture and their united and loyal workforce.

About the Role:

ARTC are seeking to employ a candidate who will undertake Network Capacity Modelling for above and below rail planning, scheduling, and operations. This role will deliver data driven solutions that will support and improve the scheduling and planning of maintenance events within the ARTC network

The primary purpose of this role is to be forward-thinking and ensure that requests for track access do not impact ARTC's commercial objectives. The Network Capacity Modeller will support improvements to operational performance and commercial outcomes through capacity assessments of both short and long term maintenance planning and scheduling.

Primary Responsibilities include:

- Assist in the development of models for increased track access for the Asset teams without impacting ability to deliver
- Apply innovative data modelling & analysis techniques to support efficient possession planning, improvement programs or cost saving initiatives
- Present ideas, results & recommendations to internal stakeholders
- Utilise commercially focused key performance indicators and processes of above and below rail to generate risk-based network capacity modelling

and

- Design, develop, enhance and create awareness of network capacity modelling workflows, action plans and procedures documenting the activities undertaken and lessons learned

About You:

To be successful in this role you will have a strong planning background and previous exposure to business modelling. You will have strong proficiency in utilising Excel and take a strategic and analytical approach to planning and scheduling. Primarily, you will have an ability to convert data into scenario models that reliably predicts outcomes, increases productivity, and reduces capital expenditure.

Essential Skills

- Experience in the mining manufacturing or logistics sectors
- Sound knowledge of supply chain management
- Proficient in the use of Microsoft Office suite
- Tertiary qualified in business, engineering, mathematics or logistics, OR extensive relevant experience from large, complex businesses
- Strong communication and stakeholder management skills

and

- Highly developed analytical and numeracy skills

Desirable Skills:

- Experience in the rail industry; and
- Experience with simulation software

Work-Life Balance

This position gives you the gift of work-life balance. ARTC are invested in providing flexible work arrangements for their employees. If you require an occasional day to work from home, or you need to leave work early to pick the kids up from school-then this role offers the flexibility to do so.

ARTC embraces a diverse workforce to ensure a supportive, flexible and fair workplace in which differences between employees are respected and viewed as organisational assets. We recognise that a talented and diverse workforce is fundamental to building a commercially strong and customer-focused organisation that will give rail a competitive advantage. We foster and support continued professional development for all of our team by offering opportunities to build management and leadership skill capability.

#logistics #model development #modelling #mathematics #analytical skills

OKAY SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

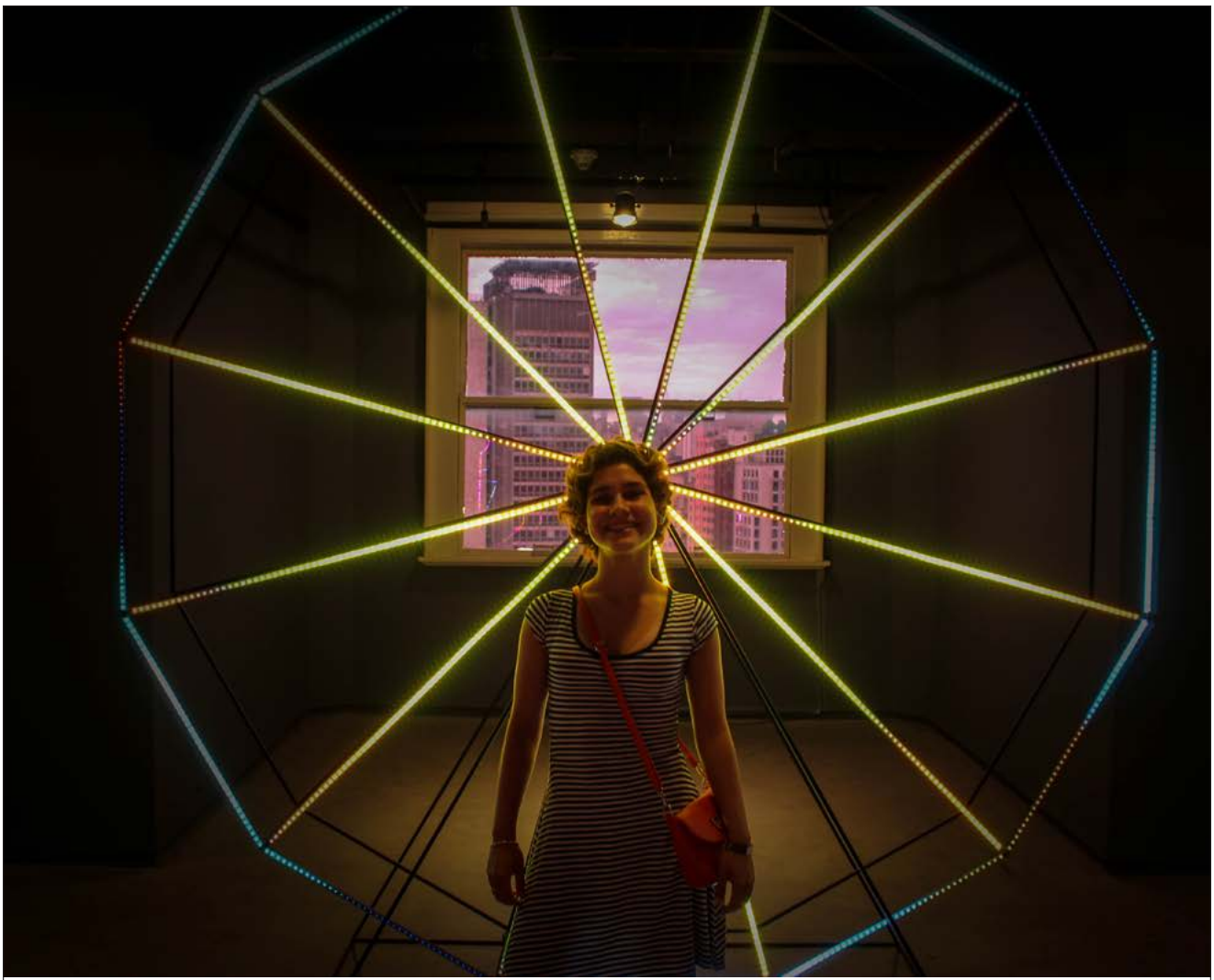
- PROBABILITY
- STATISTICS
- CALCULUS
- NETWORK THEORY
- OPTIMISATION
- MACHINE LEARNING

THE JOBS

- QUANTITATIVE ANALYST
- SUPPLY CHAIN ANALYST
- RISK ANALYST
- PROCESS ENGINEER
- TRAFFIC ENGINEER
- LOGISTICS MANAGER
- OPTIMISATION SPECIALIST

THE EMPLOYERS

- GOVERNMENT
- AIRLINES
- PUBLIC TRANSPORT
- COURIERS
- FREIGHT & SHIPPING COMPANIES
- MANUFACTURING INDUSTRY



The careers of the future count on maths and stats

75% of the fastest growing jobs in Australia require maths and stats on a daily basis.

A diverse range of industries now count mathematicians as their most valued employees.

Finance, engineering, teaching, government, computing and research are just some examples of industries that rely on mathematical skills

With UWA's flexible course structure, you can combine your passion for maths with your interests in just about any industry.

You'll enter the work force with more than just a maths degree; you'll possess the critical skills that employers value most.

study.uwa.edu.au/courses/mathematics-and-statistics

THE UNIVERSITY OF WESTERN AUSTRALIA

CRICOS Provider Code: 00126G OF#352729

> THE TANK WAS DESIGNED USING A HIGHLY ADVANCED MATHEMATICAL TOOL KNOWN AS FINITE ELEMENT ANALYSIS TO PREDICT FORCES DURING OPERATION AND OPTIMISE FOR THE LOWEST TARE MASS.

THINU HERATH

Senior Engineer – Omni Tanker

Engineering has changed the world. We're surrounded by the work of engineers every single day. Ever since I can remember, I've always been fascinated by making things and solving problems. I decided to study engineering, so I could develop my problem-solving skills and use these skills to improve the way we live.

During my PhD I undertook an internship at Omni Tanker, a company that manufactures specialised carbon fibre road tanks and tank containers to transport highly corrosive and high-purity oxidising chemicals. I worked with the company to design and develop the structural design of a 4000-litre carbon fibre tank and its fire protection system. The tank was designed using a highly advanced mathematical tool known as Finite Element Analysis to predict forces during operation and optimise for the lowest tare mass. The resulting tank was over 40% lighter than the industry standard for a corrosive chemical transportation tank. A real highlight for me was travelling to Germany, where the prototype I made passed fire testing as part of the standards approval process. These tanks are now sold in Europe and the USA.

I love that I was able to use my specialist engineering skills to deliver this project. Now I am valued full time member of Omni Tanker's engineering team. I wouldn't have been able to do what I did without my knowledge in maths and science. Maths is the language of science and mechanical engineering and plays a huge role in researching, designing, developing, manufacturing and testing engines, machines and other mechanical devices.

Remember that teacher who inspired and encouraged you to be your very best? You could do that for a new generation of Australians.

Education offers a real opportunity to make a difference to people's lives. Who knows, one of your students may be the mathematical leader, scientist or engineer who changes the world.

You don't have to work in the classroom either. As well as teaching in primary or secondary schools, teachers work in universities and provide the expertise needed for curriculum development, education management and even government policy. Education offers a secure and flexible career that you can take all around the world.

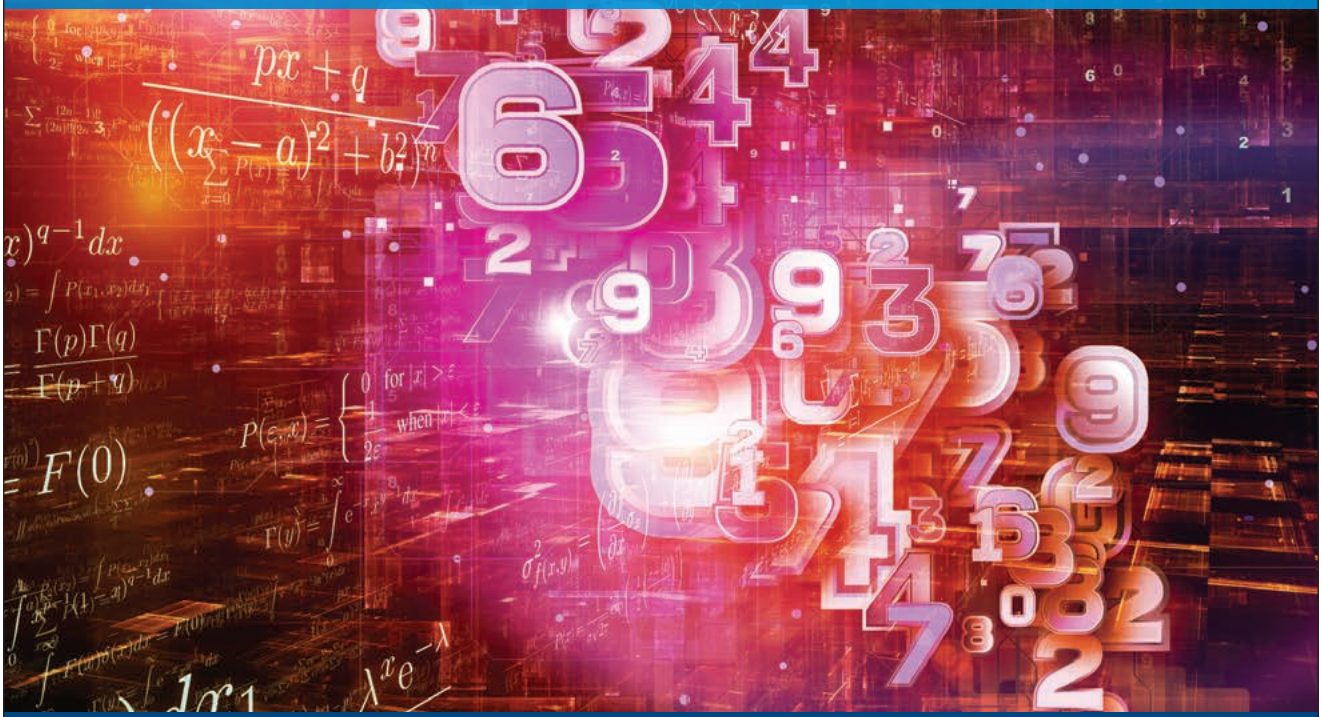
Online learning is an emerging market and now allows remote students the same access to information as students in metropolitan locations. As more and more courses move into the digital space it may be possible to teach students all over the globe, from your home here in Australia.

With out-of-field maths teaching a growing problem in Australia, your skills can make a world of difference in education.

EDUCATION

THE WORLD WORKS BETTER WITH *MATHS*

QUT Maths



a university for the real world

QUT

CRICOS No. 00213J

STATISTICS LECTURER

Macquarie University / Sydney / Full-time, continuing

- Exciting Teaching and Leadership Opportunity (up to two positions available)

The Role

The Department of Mathematics and Statistics is looking to appoint motivated, flexible, teaching innovators with significant professional experience and/or online education experience for appointment as Lecturer or Senior Lecturer in Statistics (Teaching and Leadership). Up to two positions are available.

Reporting to the Head of Department, you will be focused on the delivery and organisation of teaching and enhancing the student experience. You will provide strong leadership of academic courses and activities, with an emphasis on pedagogic innovation, governance and leadership within the Department and statistics discipline, and across the University more broadly.

Macquarie University recently introduced an Academic Job Family Framework which recognises and rewards the breadth of academic work including promotion pathways. The Teaching and Leadership Academic family is a specialist teaching and leadership role for academic staff who demonstrate excellence in teaching and leadership and wish to focus in these areas. As a specialist role, Teaching and Leadership Academic staff dedicate their workload contribution to Teaching, Leadership of Teaching, and Service.

About Us

The Department of Mathematics and Statistics is a leading national department for the mathematical sciences with a diverse teaching and research program in statistics, applied mathematics and pure Australia's #1 job site mathematics. As well as offering several specialist undergraduate and postgraduate coursework programs in statistics with rapidly growing enrolments, we are a major provider of service teaching in statistics and mathematics for the university. Our areas of strength in statistics include biostatistics, computational statistics, applied statistics and mathematical statistics. The Department is also highly regarded for its contributions in applied mathematics, notably in fluids and electromagnetism, and in several branches of pure mathematics including category theory and harmonic analysis.

Macquarie University is a university engaged with the real and often complex problems and opportunities that define our lives. Since our foundation 55 years ago, we have aspired to be a different type of university. Over the years, we've grown to become the centre of a vibrant local and global community. Connect with us today.

To Apply

To be considered for one of these exciting opportunities, please apply online including a full resume, and carefully address the selection criteria below in the online application form.

Essential criteria

- A PhD or equivalent experience in statistics, mathematics or a related discipline
- Demonstrated ability to teach at undergraduate and postgraduate level in a range of areas of statistics
- High quality teaching skills including evidence of strong student outcomes and reflective practice
- Demonstrated capacity for and commitment to innovation in pedagogy, teaching practice, assessment, online learning and/or curriculum development
- (For appointment at Level C, a significant record of these activities is expected)
- Capacity for academic leadership in the delivery and/or development of units or courses
- (For appointment at Level C, a significant record of these activities is expected)
- Ability to contribute to a collegial environment in furthering the goals of the Department
- A strong commitment to advancing principles of equity, diversity and inclusion within the staff and student bodies of the Department, Faculty and University

Desirable criteria

- Evidence of successful delivery to diverse student cohorts at undergraduate and/or postgraduate levels in statistics
- Substantial skills in statistical programming and software tools, especially R
- Experience in applying statistical software tools in undergraduate and graduate level courses
- Experience in sophisticated or innovative uses of online learning systems

#statistics #mathematics #innovation
#stastical programming #lecturer

OKAY SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

- ARITHMETIC
- ALGEBRA
- CALCULUS
- PROBABILITY
- STATISTICS
- GEOMETRY
- TRIGONOMETRY

THE JOBS

- TEACHER
- EDUCATION CONSULTANT
- LECTURER
- PRINCIPAL
- CURRICULUM LEADER

THE EMPLOYERS

- SCHOOLS
- UNIVERSITIES
- TAFE
- DEPARTMENT OF EDUCATION
- MATHS ASSOCIATIONS
- PUBLISHING COMPANIES
- EDUCATIONAL ORGANISATIONS

“UNIMAGINED POSSIBILITIES AWAIT US, IF YOU HAVE MASTERED MATHEMATICS THEN YOU WILL BE THE PIONEER WHO SETS A COURSE FOR HUMANITY BEHIND YOU!”

EDDIE WOO

High school teacher

MATHS TEACHER

Catholic Education Townsville / Perth / Full Time

Good Shepherd College (Mount Isa, QLD) is a co-educational Year 7 to 12 college of 500 students. Good Shepherd Catholic College is a community who journey together in faith with "Christ Our Light". Our students, staff, and parents are partners focused on holistic education within a welcoming and caring environment. Fostering faith and spirituality is our primary goal. We believe in the uniqueness and dignity of each individual. We endeavour to encourage each member of our community to be inner-directed, responsible, compassionate and just. Students, staff, and parents learn best in situations of loving relationships and mutual respect. Good Shepherd Catholic College has an exciting full-time permanent position to commence as soon as practicable for a **Maths Teacher** with the ability to teach Year 12 **Essential Maths.**

Graduate Teachers welcome to apply!

To join in this vibrant school community, you'll need:

An innovative, proactive approach to student learning Experience and a passion for teaching Maths

Demonstrated strong and effective communication with students, parents, and staff

QCoT registration or ability obtain

What we offer

In addition to the pure thrill of seeing your students take significant educational leaps, we also offer a range of additional benefits to our teachers, including:

- Competitive Salary starting from $70,080 - $100,936
- Salary packaging options via REMSERV
- Modern facilities and equipment
- Superannuation up to 12.75% employer contribution (if an employee co-contribution is made)
- Access to long service leave after 7 years of continuous service
- 14 Weeks' Paid Parental Leave
- Deferred Salary Scheme
- Corporate Health Insurance
- Induction and Professional Development Opportunities
- Wellbeing programs

Support for you in a rural community

- Additional pay remuneration for teaching at remote schools
- IPRASS and ITAS Incentives
- Extra Travel Days and extra Emergent Leave
- Reasonable relocation costs
- Housing assistance and rental cost assistance
- Dedicated support teams at each school to assist new teachers
- Scholarship programs for further study
- Flexible working conditions
- Leadership programs
- Opportunities to advance career

#mathematics teacher #mathematics education #secondary mathematics #secondary school #secondary teacher

RESEARCH FELLOW

Monash University / Melbourne / Full Time $69,401 - $94,190 pa Level A (plus 17% employer superannuation)

- Be inspired, every day
- Drive your own learning at one of the world's top 80 universities
- Take your career in exciting, rewarding directions

Everyone needs a platform to launch a satisfying career. At Monash, we give you space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers.

The Opportunity

The Department of Econometrics and Business Statistics, one of seven academic departments in the Monash Business School, comprises approximately 50 academics with particular strengths in econometric theory and methods, **applied econometrics**, **time series analysis**, **forecasting**, **statistics**, **actuarial science**, **data visualisation** and **analytics**, and **machine learning**.

In the Excellence in Research for Australia assessment conducted by the Australian Research Council in 2018, Monash University received a rank of 5, the highest possible rank, in Econometrics. The Monash Business School is also in the top 10% of institutions in Econometrics as ranked by IDEAS (a Research Papers in Economics service maintained by the Federal Reserve Bank of St. Louis, USA), meaning that the Department appears among the best institutions in the world.

The successful candidate will participate in an Australian Research Council (ARC) funded project entitled "New methods for modelling complex trends in climate and energy time series", which aims to contribute to Australian and international efforts on emission control by advancing the methods for quantifying the relationships between energy production, emission and climate, and assessing the real and financial risks associated with changing the ways in which economies produce and use energy.

To be considered, you will have a well-developed planning and organisation skills and the ability to solve complex problems by using discretion, innovation and exercise diagnostic skills and/or expertise. You will also have excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents. If you are enthusiastic at the prospect of embarking on a ground-breaking challenge, we strongly encourage you to apply!

This role is a full-time position; however, flexible working arrangements may be negotiated.

At Monash University, we are committed to being a Child Safe organisation. Some positions at the University will require the incumbent to hold a valid Working with Children Check

#statistics #econometrics #time series analysis #research #machine learning #actuatial science #data visualisation

> “INSPIRING TEACHERS TO BE GREAT MATHEMATICS EDUCATORS GIVES MY LOVE OF MATHS SCALABILITY. INSTEAD OF JUST REACHING THE 25 STUDENTS WITHIN MY CLASS, I CAN REACH THE 150 STUDENTS IN THE 5/6 COHORT.”

SAM HARDWICKE

Inquiry Manager Teacher Professional Learning – Questacon

In my role as Educator Programs Manager at Questacon – Australia’s national science and technology education centre in Canberra—I’m promoting greater understanding and awareness of science, technology, engineering and mathematics within the community through an experience that’s fun, interactive, and relevant. This involves working with teachers and school leaders to drive a strong school improvement agenda and influence the evolution of education.

Previously I led a team of teachers embracing Project Based Learning enhancing achievement standards across multiple learning areas in rich and authentic ways, sharing our practice locally, nationally and internationally through conferences and forums. In 2017 I received a national AMSI ChooseMATHS Teaching Excellence Award in Melbourne for my work in furthering mathematics education, and was also one of two Australian teachers awarded a Northrop Grumman STEM Fellowship. This provided me with the chance to spend time in the USA working side-by-side with American teachers and industry professionals.

My greatest strength in mathematics remains an ability to inspire others. Because I love maths so much it seems to rub off on people around me!

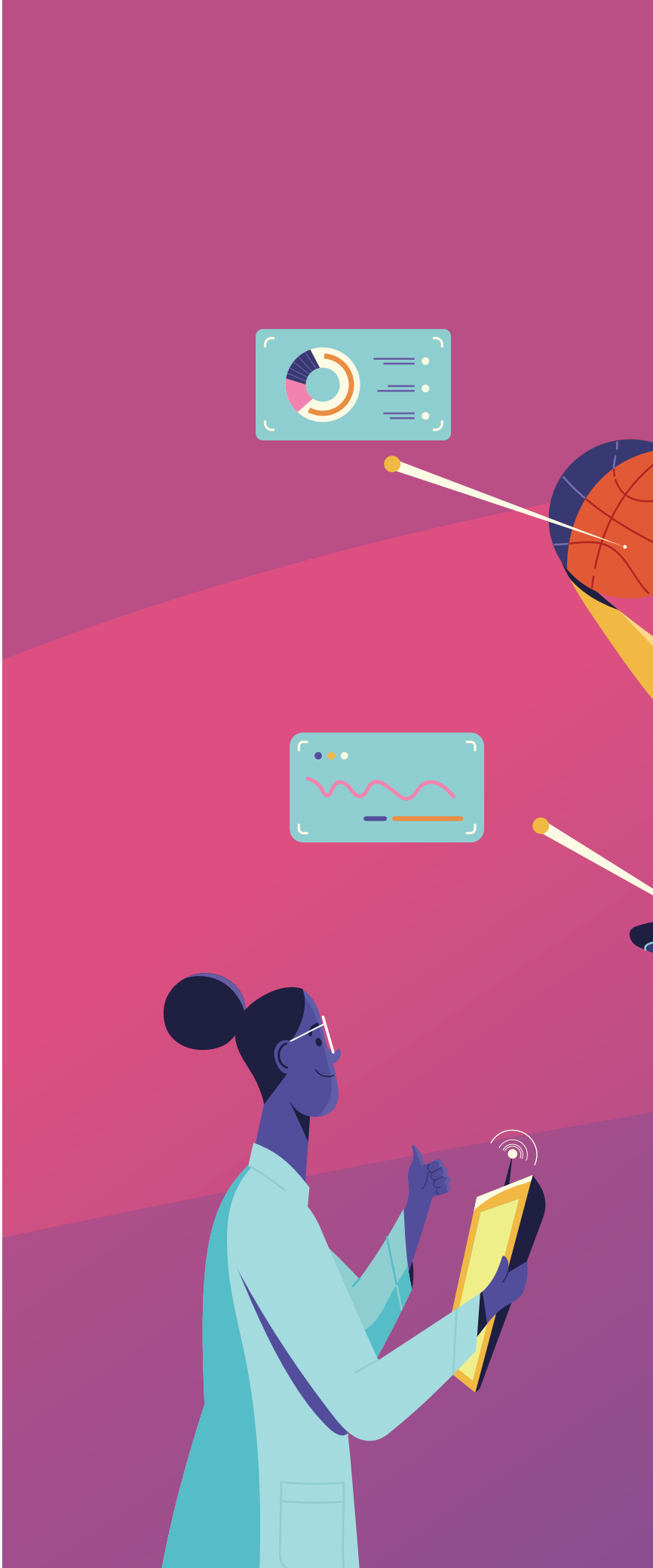
Sport is a numbers game. From optimising performance to game strategy, doing the maths to get that big win is always front and centre.

With TV broadcasting deals and sponsorships at play, sport is big business and the demand on players and coaches has never been greater. Finding the winning edge with data and strategic game play is essential. It's estimated that the sports analytics market is expected to reach almost $4 billion by 2022 and it shows no signs of slowing over the next decade.

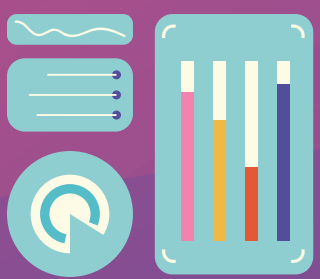
Watch a football game and the statistics will come thick and fast. Goals scored, kicks, patterns of play and even betting odds. Behind the scenes a team of analysts is mining this information for a golden ticket to triumph. Helping the players stay ahead with the next best move.

Wearable sports technology grabbed headlines in 2010 when FINA decided to ban high tech swimsuits. Since then wearables in the form of clothing, technology to analyse body performance data and even high-tech footwear have been a hot topic and a growing industry. Maths and stats are used at every step from Research and Development to performance analysis and even marketing.

The sporting industry will continue to grow and mathematics and statistics graduates will be at the heart of every sports team, across every code, around the world.



SPORT & RECREATION



85% OF THE JOBS THAT WILL EXIST IN

2030

HAVEN'T EVEN BEEN INVENTED YET

Dell Technologies - Report 2017
The next era of human machine partnerships: Emerging technologies' impact on society & work in 2030.

CUSTOMER ANALYTICS AND REPORTING

Surf Life Saving Foundation / Sydney / Full Time

- Support our Donor and Lottery teams fundraising efforts
- Full time Monday to Friday position
- Based in Bowen Hills close to public transport

The Surf Life Saving Foundation (SLSF) is the national fundraising body for Surf Life Saving in Australia. The Foundation manages a range of activities that raise much-needed funds to make our beaches a safer place for the millions of visitors our beaches get each year.

Based in Bowen Hills, you will work as part of a small but passionate team of people, all working to make a difference within the communities in which we operate, and supporting the front line volunteers that make our beaches safer for everyone. While we do work hard to achieve our goals, we know that it is equally important to enjoy our work and we have a great workplace to offer.

Our Values are:

- We inspire confidence by our actions
- We are driven to achieve results
- We invest in our people
- We are stronger together

We are looking for a person who ideally has 1 – 3 years' experience in a similar insight driven data analytics area with a focus on marketing analytics, statistical modelling preferably in financial services or related education and project work. Our workplace is lively, fun and fast paced, so it will suit someone that enjoys working with and around people.

You will work on multiple data related projects at any given point in time and be a detail oriented operator with a passion for marketing and analysing a business and its customer base to get the most out of future fundraising activities. The successful candidate will have strong experience with SQL, advanced Excel skills and a tertiary qualification in a relevant Mathematics, Engineering, Marketing, Commerce/Business, Actuarial Studies, or Statistics discipline. Proficiency in using "R" would be advantageous.

Responsibilities of this role include:

- Reporting to the Customer Insights Manager (CIM) and with a primary focus of Donor and Lottery functions and associated activities, this role will support SLSF Revenue Managers and the SLSF Executive by providing:
- Regular and bespoke database selections for direct marketing and other supporter communications
- Producing and developing regular and one-off reports on fundraising & commercial performance and effectiveness
- Design and deliver analytical projects to inform fundraising & organisation opportunities to use reporting and analysis to drive improvement in foundation performance
- Maintain the integrity and security of SLS data and information
- Assist with the implementation and coordination of campaign plans, segmentation and development
- Deliver campaign data accurately and on time in accordance with data briefs
- Apply all customer privacy and opt out rules in accordance with government requirements at all times and investigate customer complaints in regards to use of data
- Provide pre and post campaign analytics and reporting based on data accessed from CRM
- In response to briefs provided, produce timely, effective and accurate reports in relation to data analysis / identified trends as established with CIM and other SLSF Revenue Managers
- Provide effective and timely assistance to CIM and SLSF Revenue Managers through the proactive identification and presentation of data trends, data analysis, data opportunities, organisation wide capabilities and further analysis and reporting opportunities using available IT tools and knowledge of industry best practices
- Provide daily reporting and analysis on face-to-face recruitment tracking
- Effective use of Geo-demographic (i.e. Mosaic) profiling tools to assist CIM and SLSF Revenue Managers
- Monitor and report on all external data transfers as well as undertake regular and effective data health checks when required
- Provide assistance to CIM by participating in the development of effective data selection and segmentation strategies and processes designed to improve response and return rates from SLSF supporters
- Use customer data to build next best action and response predictive models and enhance customer segmentation
- Build interactive dashboards for SLSF Revenue Managers
- Effectively assist the CIM in the development and maintenance of current processes and documentation outlining methodologies and protocols in relation to all aspects of the use, security and reporting of SLSF data
- Utilise a developed working understanding of SLS and SLSF business and activities (i.e. Marketing, Operations, and Sales Channels) to assist SLS Fundraising & commercial objectives

This is a fantastic opportunity to contribute to raising funds for a vital cause, and one of Australia's most iconic organisations.

#data analysis #data analytics #statistics #data science #predictive modelling #statistical modelling

OKAY SO HERE'S WHAT YOU NEED TO KNOW!

THE MATHS

- PROBAILITY
- STATISTICS
- ALGEBRA
- MATHEMATICAL MODELLING
- OPTIMISATION

THE JOBS

- PRODUCT ENGINEER
- SPORTS STATISTICIAN
- FOOTBALL ANALYST
- SPORTS ENGINEER
- SPORT SCIENTIST
- TEXTILE DESIGNER

THE EMPLOYERS

- SPORTS ANALYTICS COMPANIES
- GOVERNMENT AGENCIES
- SPORTS ORGANISATIONS & TEAMS
- SPORTS TECHNOLOGY COMPANIES

DATA SCIENTIST - PREDICTIVE ANALYTICS FOR SPORTS

Ashdown People / Sydney / Full Time

Are you interested in Predictive Analytics for Sport? In this role you will act as a Data Scientist within the Group Modelling Team.

Skills & Experience required

You must possess a passion for data and sports with an in depth level understanding of statistics and the application of statistical techniques to data analysis, specifically in the field of predictive model development.

- Minimum 5 years' commercial experience
- Exceptional academic record
- University studies in a quantitative field such as mathematics / statistics (or engineering) Bsc (hons), MSc+
- PHD & Research Background
- Artificial Intelligence
- Predictive Analysis
- Machine Learning
- Open Source–Python, Spark
- Experience using quantitative software packages (R, Python, Matlab, Mathematica)
- Exposure to big data processing frameworks (Apache Flink, Spark, Beam) is an advantage
- Exposure to object-orientated programming or a scripting language is an advantage
- Knowledge of SQL / understanding of relational database concepts is an advantage
- Proficient Excel / Tableau skills, with ability to analyse and present summary level data effectively
- Strong problem solving skills, ability to work in a team with an eye for detail
- Strong communication skills with fluency in English and excellent writing skills
- A passion for Sports

#data analysis #data analytics #data science #statistics #predictive analytics #modelling #machine learning #predictive model development #problem solving skills

ANZIAM (Australia and New Zealand Industrial and Applied Mathematics) is a division of AUSTMS The Australian Mathematical Society.

Our members are interested in applied mathematical research, mathematical applications in industry and business, and mathematics education at tertiary level.

Activities: conferences, awards, student support and publishing

www.anziam.org.au

> “I BRING TOGETHER EXPERTISE IN THE AEROSPACE AND MEDICAL INDUSTRIES TO DEVELOP PROFESSIONAL COMPRESSION APPAREL TO SPORTSPEOPLE.”

JAMES WALDIE

Co-founder & CEO – Cape Bionics
Adjunct Principal Research Fellow – RMIT University

My studies in Aerospace Engineering and Bioastronautics has led to some pretty amazing things and taken me to some pretty amazing places. I studied at RMIT, UCSD and MIT, where my research focused on new spacesuit designs. Since then, I have been a consultant for NASA, served as a Principal Investigator with the European Space Agency (ESA) and worked as Postdoctoral Fellow at MIT, amongst other things.

A career highlight for me was watching a spacesuit I developed being worn for the first time in space! I was at the European Astronaut Centre in Germany and watched the live feed from the International Space Station. It was such an incredible experience – 15 years of hard work had paid off.

After many years working on spacesuit designs, I have now co-founded my own company called Cape Bionics. While I have spent a lot of time developing new technology to improve the health of those in space, I now want to apply that technology to help those on Earth too! The purpose of my company is to bring together expertise in the aerospace and medical industries to develop professional compression apparel to sportspeople. We use maths to design custom garments which apply the perfect level of compression for different situations.

To do this, we scan a player and then analyse the scan to determine the player size. Then, we design a garment using a lot of equations so that the tension in the garment produces the right compression on the skin.

Currently our apparel is supplied to AFL and Rugby Union teams. While I am proud of my spacesuit success, only two astronauts have worn my suits in space. That’s why I started Cape Bionics – next, I hope to see my compression technology worn by people all over the word.

CRICOS 00123M 2451.37

A DEGREE THAT REALLY COUNTS:

MATHEMATICAL SCIENCES AT ADELAIDE

Make your degree work for you by studying with Australia's highest rated School of Mathematical Sciences*

Creativity and innovation

Mathematics and statistics provide the essential toolkit to model, analyse and understand today's complex world. Studying with us will prepare you for a rewarding career in areas including data science, finance, cybersecurity or defence, or for further study and research.

Study with us

- Bachelor of Mathematical Sciences
- Bachelor of Mathematical Sciences (Advanced)
- Bachelor of Mathematical and Computer Sciences

The University of Adelaide

The only Australian University to be rated High in all three engagement and impact dimensions for Mathematical Sciences and also rated "well above world standard" in Statistics, Pure Mathematics, Applied Mathematics and Mathematical Sciences as a whole.*

Learn from our passionate lecturers and award-winning researchers in Pure Mathematics, Applied Mathematics and Statistics.

Our graduates are highly regarded for their creativity, problem solving abilities and research skills, and are sought after by a wide range of employers.

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GRADUATE PROGRAMS

Graduate programs offer great pathways to those looking to transition into the workplace. They are also a great way for companies to tap into emerging specialised talent. Running over one to two years, graduates gain valuable workplace experience and benefit from mentoring, training, networking and social activities.

We recommend applying for programs early in your final year of study. This way you can finish your degree knowing there is a job waiting at the end.

Available graduate programs vary from year to year, depending on intake timelines. We've included a list of some examples of the types of opportunities open to mathematics and statistics graduates. You can find more options online or through your university career centre.

Gradaustralia
GRADAUSTRALIA.COM.AU

Gradconnection
GRADCONNECTION.COM.AU

Australian Mathematical Society
AUSTMS.ORG.AU/CAREERS

Statistical Society of Australia
STATSOC.ORG.AU/CAREER-RESOURCES

My Future – career information & exploration
MYFUTURE.EDU.AU

BUSINESS & MARKETING

Accenture, AECOM, Capgemini, Coles, IBM, SMS Management & Technology, Unilever, Woolworths

EDUCATION

Teach for Australia, Department of Education & Training

ENGINEERING & RESOURCES

AEMO, Arup, Hatch, Aurecon, Ergon Energy, Schneider Electric, Sydney Water, Water Corporation (WA), Rio Tinto, BHP Billiton, BP, Chevron, Santos, Wood Group, Woodside, WorleyParsons,

HEALTH & SOCIETY

Australian Bureau of Statistics, Australian Electoral Commission, CSL, Department of Human Services, Department of Infrastructure & Regional Development, Department of Premier & Cabinet (WA), Queensland Government, Victorian State Government

FINANCE & MONEY

Bloomberg, CPA Australia, Deloitte, Ernst & Young, KPMG, McGrathNicol, PWC, AMP, ANZ, ASIC, Australian Super, Bankwest, Bendigo Bank, CBA, GE, HSBC, IMC, Jane Street, Macquarie, Pitcher Partners, Reserve Bank of Australia, Suncorp Group, Westpac Group, Australian National Audit Office, Australian Treasury, Queensland Treasury, Allianz, Gallagher Bassett Services, GE, IAG, Medibank, Optiver, QBE, Suncorp

SCIENCE & ENVIRONMENT

Bureau of Meteorology, CSL, Department of the Environment & Energy, Department of Science & Innovation

SECURITY & DEFENCE

Australian Defence Force, Department of Defence, Australian Federal Police, DST Group, Lockheed Martin

TECHNOLOGY

Atlassian, Microsoft, Telstra

TRANSPORT & LOGISTICS

Qantas, Aurecon, Aurizon

WHAT'S YOUR PASSION?

ARCHITECTURE
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BANKING
BIOINFORMATICS
BUSINESS & CONSULTING
CODING
COMPUTING & TECHNOLOGY
CRIMINOLOGY
CRYPTOLOGY
ECONOMICS
ENERGY
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