

# Borja Gonzalez Leon

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## About me

Research Scientist intern at Sony AI. Final year PhD @ Imperial College London. **35 Under 35 List**. Former Machine Learning (ML) Intern at Meta AI. My research addresses the topics of grounded language and open-ended embodied learning through Deep Reinforcement Learning (DRL).

## Relevant Work Experience

### Sony AI, Research Scientist intern.

*Policy diversity and open-ended Artificial Intelligence (AI) with DRL for Game AI.*  
01/2023 – today | London, United Kingdom

### Imperial College London, Graduate Teaching Assistant

*Subjects: Reinforcement Learning | Modal Logic for Strategic Reasoning in AI | Mathematics for Machine Learning*  
04/2019 - present | London, United Kingdom

### Valencian International University, External Collaborator

*Supervisor of 15 final projects about DRL @ MSc in Artificial Intelligence.*  
09/2021 – 04/2023 | Valencia, Spain (Remote)

### Meta AI, PhD ML Intern.

Worked on Ads Targeting. Tackled a previously blocking issue leveraging significant improvement opportunity for Meta Ads AI systems. For details, I refer to [recommendation from my manager Oleksandr Savsunenko](#).  
06/2022 – 08/2022 | London, United Kingdom

### Politecnico di Milano, Research Assistant

*Computer vision (CV) and deep learning (DL) for satellite images [9].*  
2017-2019 | Milan, Italy

### NTT Data, Big Data and AI intern

*Applied research on recommendation systems. Representative of the interns.*  
2016-2018 | Madrid, Spain (2017-2018 Remote)

## Education

### Imperial College London

*Ph.D. Artificial Intelligence & Machine Learning*  
*Advisors: Francesco Belardinelli & Murray Shanahan.*  
04/2019- 01/2024 (expected) | London, United Kingdom

### Politecnico di Milano

*MSc Erasmus+ In Artificial Intelligence*  
*Thesis: Industry project about DRL applied to Autonomous Driving.*  
*Advisor: Marcello Restelli*  
2017-2018 | Milan, Italy

### Universidad Politecnica de Madrid

*MEng in Telecommunications Engineering*  
*Thesis done at Politecnico di Milano*  
2016-2018 | Madrid, Spain

### BEng in Telecommunications Engineering

*Thesis: Academic project on OS with security vulnerabilities.*  
*Advisor: Victor Villagra*  
2011-2016 | Madrid, Spain

## Honours & Awards

AAAI workshop on Safe AI 2022  
**Best Paper Award** [4].

### Santander-CIDOB **35 under 35 List**

*Included in the second edition (2021) of the 35 under 35 Leaders of the Future from the Barcelona Centre for International Affairs in collaboration with Bank Santander.*

### Imperial College London.

#### **Doctoral Scholarship Award**

*3.5-year scholarship from the Department of Computing. 2019.*

### Microsoft

#### **Top Spanish Microsoft Student Partner (MSP)**

*Selected as one of the two top Spanish MSPs in 2016-2017.*

### IEEEExtreme

#### **Second best Spanish Team.**

*Member of a 3-person team 24-Hour Programming Competition. 2016.*

### Universidad Politecnica de Madrid

#### **Winner of Mars Competition**

*Team leader of winner team in the 8-weeks Mars workshop competition. [Spotlight presentation](#) (in Spanish).*

## Publications

- [1] [G. León, B.](#), Shanahan, M., & Belardinelli, F. *In a Nutshell, the Human Asked for This: Latent Goals for Following Temporal Specifications.* **ICLR**, also at EWRL, 2022. Previous version at ICML workshop on Uncertainty & Robustness in Deep Learning.
- [2] [G. León, B.](#), Shanahan, M., & Belardinelli, F. *Agent, do you see it now? systematic generalisation in deep reinforcement learning.* ICLR workshop on Agent Learning in Open-Endedness, 2022.
- [3] [G. León, B.](#), Shanahan, M., & Belardinelli, F. *Systematic Generalisation of Temporal Tasks through Deep Reinforcement Learning.* AAMAS workshop on Adaptive and Learning Agents, 2022.
- [4] He, P., [G. León, B.](#), & Belardinelli, F. *Do Androids Dream of Electric Fences? Safety-Aware Reinforcement Learning with Latent Shielding.* AAAI Workshop on Artificial Intelligence Safety, **best paper award**, 2022.
- [5] Belardinelli, F.\*, [G. León, B.](#)\*, & Malvone Vadim, M.\*. *Enabling Markovian Representations under Imperfect Information.* **ICAART**, 2022 (oral). (\* Same contribution)
- [6] Zhu, S., Belardinelli, F., & [G. León, B.](#) Evolutionary Reinforcement Learning for Sparse Rewards. **GECCO** companion proceedings, 2021.
- [7] El Mqirmi, P., Belardinelli, F. & [G. León, B.](#) *An Abstraction-based Method to Verify Multi-Agent Deep Reinforcement-Learning Behaviours.* **AAMAS** 2021.
- [8] [G. León, B.](#) & Belardinelli, F. *Extended Markov Games to Learn Multiple Tasks in Multi-Agent Reinforcement Learning.* **ECAI**, 2020 (oral).
- [9] Lattari, F.\*, [G. León, B.](#)\*, Asaro, F., Rucci, A., Prati, C., & Matteucci, M. *Deep Learning for SAR Image Despeckling.* **Remote Sensing**, 11, 1532 (2019). (\* Same contribution)

## Community Service and Volunteering

### **ICARL**

#### **Founder & Lead Organiser**

*Imperial College autonomous reasoning & Learning (ICARL) is a group of researchers focused on DRL and related topics. I lead both the seminars and the reading group.*  
2022 - present | London, United Kingdom

### Department of Computing, Imperial College London

#### **PhD Representative & Buddy**

*Representative of the PhD students that started at 2019 & buddy -mentor- of new PhD students in the Department of Computing.*  
2020 - present | London, United Kingdom

## Formal Methods in Artificial Intelligence

### Organising committee

3rd international workshop about Formal Methods and Machine learning at Imperial College London  
2021 | London, United Kingdom

## SpainML

### Organising Committee

SpainML is an online community of enthusiasts about machine learning with more than 1500 participants in 2020.  
2019-2020 | London, United Kingdom

## Microsoft DotNet Club @ ETSIT

### President

Microsoft Student Partner and President of Microsoft's student club at the Telecommunications College in Universidad Politecnica de Madrid.  
2015-2017 (President since 2016) | Madrid, Spain

## IEEEsb Madrid

### Treasurer

Board member of the oldest Spanish IEEE student branch.  
2014-2017 (Treasurer since 2015) | Madrid, Spain

## NeurIPS, ICLR, ICML, TMLR

### Reviewer

I yearly review in all the venues and journals above, I occasionally have reviewed or subreviewed at other venues including AAAI, ECAI, AAMAS, etc.  
2019-present | Online

## Imperial College London

### Supervision

I have supervised and co-supervised the master thesis of 9 students at ICL focused on the topics of multi-agent systems, deep reinforcement learning, continual learning, inverse reinforcement learning, AI safety, and evolutionary strategies.  
2019-present | London

## Talks

Nova Knowledge 2023 | Euro-Global Conference on Biotechnology and Bioengineering'22 | Charles III University of Madrid | Valencian International University | MadRL meetup | European Space Agency's Living Planet Symposium | Facebook Developers Group Madrid | Universidad Politecnica de Madrid.

## Miscellaneous

### Workshops

European Workshop of Reinforcement Learning (EWRL). Milan, Italy, 2022.  
Mediterranean Machine Learning Summer School. Online, 2021.  
UPMSat 2. Madrid, Spain. 2013-2014.  
UPM Mars Exploration Workshop. Madrid, Spain. 2012.

### Online training

Multiple courses, specializations, and nanodegrees from Coursera and Udacity, including Machine Learning, Deep Learning, and Deep Reinforcement Learning.

### Programming Literacy

I have worked with multiple programming languages, e.g., SQL, Matlab, Java, C, HTML and Javascript. Lately, I work mainly with [Python](#) and [TensorFlow](#).

### Languages

English: Fluent      Spanish: Native      Italian: Basic