Podcast Name: *ACM ByteCast*
Episode: Juan Gilbert - Episode 55

Welcome to the *ACM ByteCast* podcast, a series from the Association for Computing Machinery! The podcast features conversations with researchers, practitioners, and innovators at the intersection of computing research and practice about their experiences, lessons learned, and visions for the future of computing. In this episode, host Scott Hanselman, Vice President of Developer Community at Microsoft and the host of the podcast *Hanselminutes*, interviews guest Juan Gilbert. Juan is the Andrew Banks Family Preeminence Endowed Professor and Chair of the Computer and Information Science & Engineering Department at the University of Florida, where he leads the computing for social good lab.

To begin, Juan Gilbert received the National Medal for Technology Innovation Award bestowed by the President of the United States, which is the highest award you can receive in this field. He didn't know that someone had nominated him and got an email out of the blue saying the University had to approve it, but it was highly confidential. He was nominated in 2019, but wasn't awarded until 2023. He also explains his active project which is an all-accessible voting system. Congress passed legislation to help people with disabilities vote, but they created a separate but equal approach. He designed a universal voting machine designed to help people vote on the same machine as anyone else. It has a barrier- free design with multi-modality that can speak to you if you're blind or visually impaired. You can respond with voice or switches, or buttons. It also gives privacy in that the voter can say "vote" for the person they are voting for, instead of that person's name so their vote is only between them and their government. In his computing for social good lab, the idea is to change the world by building innovative solutions to real-world problems.

Next, Juan and Scott discuss the role of AI, and whether it will take away jobs or just aspects of jobs. Juan says we don't really know how AI will affect our society until it does. The only thing we can say for certain is that AI will change things. They talk about how the government cloned sheep years ago, and they decided that they won't make copies of humans. AI is open-sourced, and it is not as easy for a society to decide that we won't use AI for something. It is imited to the country and their own regulations. Facial recognition in airports is seen as a very great technology in Asian countries, but US senators have said it's not a good idea. Each culture and country can have a very different reaction to the same technology. We also don't know if AI will work until it is deployed. AI with facial recognition ended up using bias, creating disparities, and had mistaken identities. We don't know if AI will truly work until we deploy it and see it as successful. Within hiring decisions, Juan created Applications Quest (AQ) which is technology that removes the use of race, national origin, gender, etc. to have holistic diversity among applicants across many diverse attributes. This technology recommends which applicants are recommended when there is a surplus of applicants that are over-qualified for the position.

In addition, Dr. Juan talks about how they decide as a lab which projects to work on. He says the ideas come from society, and the issues and events they see. For example, his students were upset that people kept getting shot during routine traffic stops. So, they created an app

called *Virtual Traffic Stops* that you can install. Once you install the app and register, if a law enforcement officer pulls you over, the idea is that you can initiate a virtual traffic stop prior to them approaching the vehicle with a third party on it. This is a de-escalation tool that created an icebreaker moment to tell who they are, what they're stopped for, and have a third-party present for minors or speech impaired. This design gives speech impaired or hard of hearing people the opportunity to chat instead of speak. The whole thing is recorded and is made available to you and law enforcement. Many cops are also injured or killed outside of the vehicle by getting hit by cars, so this app also minimizes the amount of time they are outside of the car and potential accidents.

Lastly, many professors write papers and do their research that route, but Juan tends to create things in order to have an impact and change the world. They want to understand people, technology and culture by creating an intervention that would help solve a social problem. He explains the idea of Brain Computer Interface (BCI) where they raised drones with their thoughts in a drone race. They did this to show that BCI is legitimate and can be used. He does have thoughts on where BCI could go, but it's a viable technology with a noninvasive product. This could completely change how we interact with our systems.

Key takeaways:
1:08 - Juan Gilbert explains the award he received from the President.
3:21 - What does it mean to have an all-accessible voting system?
9:14 - Do you see AI taking away jobs, or just taking away aspects?
14:01 - How are you approaching AI within the context of hiring decisions?
16:30 - What is the capacity that is limited?
17:48 - How do you decide as a lab which projects to work on?
24:30 - Juan Gilbert wants to make an impact and change the world.
26:36 - How will we interface with machines in the future?

Links:
Learn more about [Juan Gilbert.](#)
Learn more about [Scott Hanselman.](#)

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