Podcast Name: *ACM ByteCast*
Episode: Episode 56 - Ramón Cáceres

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 Bruke Kifle embarks on a journey through cutting edge domains with guest Ramón Cáceres, a computer scientist, researcher, and software engineer, born and raised in the Dominican Republic. His areas of focus include systems and networks, mobile and edge computing, mobility modeling, security and processes. Most recently, he worked at Google, where he built large scale privacy infrastructure.

Systems and networks facilitate seamless communication collaboration in our increasingly connected world. Mobile and edge computing redefine how we access and process information, empowering real time decision making on an unprecedented scale. At the same rate, security and privacy are essential for safeguarding digital identities and sensitive information from potential threats. These pillars are the backbone of our digital world, shaping how we communicate, innovate, and protect digital infrastructure.

To begin, Ramón shares that his journey to computing was an indirect path. He grew up interested in engineering, and decided during his senior year in high school to pursue a degree in computer engineering. He joined an electrical engineering program at McGill University, and came to realize he liked computer software most of all. Thus, he pursued a masters in computer science at UC Berkeley. After 3 years working in software engineering post-graduation, Ramón went back for a PhD focused on research. Having a strong background in hardware has helped Ramón throughout his career in science and engineering. Next, Ramón identifies some of the most significant challenges facing privacy and security and shares about his own work in the field.

Looking towards the future of mobile and edge computing in the next 5-10 years, Ramón believes that the union of AI is growing in importance. The ability to do machine learning in these functions will become even more crucial. He looks forward to seeing the marriage of mobile and edge computing in the coming years. He is especially interested in federated machine learning, which brings together AI, mobile and edge computing, and privacy.

On a more personal note, Ramón shares that he grew up on the coast of the Dominican Republic with the sea in his backyard, and discovered his love for sailing in his 20's in Silicon Valley. This hobby is an opportunity for Ramón to cultivate a sense of peace and relaxation, which then fuels his creative and professional pursuits. Then, he shares his own experience about approaching the gap between theory and practice, both of which he feels need to be fulfilled professionally. Switching back and forth may not be the fastest way to advance a career, but it is the only way he feels fully engaged in both sides.

Since attending UC Berkeley for his PhD, Ramón has been involved in efforts to bring underrepresented groups into the field of computing. It is important for the field to have a truly diverse workforce, and we should keep working to increase that representation. Starting as early as possible in the pipeline can be the key to widening access for underrepresented groups. It is also very important for young people to have role models who represent them to serve as an example that it is possible to succeed in the field. In closing, Ramón identifies the challenges he currently finds most interesting. Though the challenge of conserving privacy has been with us for some time, it remains in the forefront for all of computing. Finally, he offers his best advice for young aspiring software engineers and industry professionals, which is that perseverance is key, and careers don't always have to follow a linear path.

Key takeaways:
2:03 - Ramón shares what led him to the field of computing.
6:45 - How hardware and software experience has helped Ramón's scientific and engineering careers.
8:05 - Discussing privacy and security.
16:27 - Looking towards the future of mobile and edge computing.
20:20 - Ramón's passion for sailing.
23:30 - Approaching the gap between theory and practice.
26:16 - Creating more opportunities in computing for underrepresented groups.
31:46 - Interesting trends and challenges in computing.
34:12 - Advice for young people just entering their careers.

Links
Learn more about Ramón Cáceres.
Learn more about Bruke Kifle.
Learn more about the ACM ByteCast podcast at https://learning.acm.org/bytecast

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