Podcast Title: ACM Bytecast
Episode Title: Kristian Lum

In this episode of ACM Bytecast, Rashmi welcomes Kristian Lum about the use of technology for social good. Kristian is the lead statistician for the Human Rights Data Analysis Group, where she leads their criminal justice in the United States project. Recently, she's joined the research faculty of the University of Pennsylvania in their computer and information science department. She started in math and statistics, and felt a lot of overlap existed between math and machine learning. In college, she realized her interest in statistics and wanted to mine information from data that led her to computing.

Kristian was working in a lab on micro-simulation for the epidemic outbreaks, and through that work, she realized her interests expanded to social problems, not just biological ones. She used the methods that modeled infectious disease and applied them to incarceration. At first, it wasn't easy to find the data needed to do solid analysis, but she's been able to find more private data and partnerships to do the necessary analysis as she's built up the program. Rashmi brings up the sensitive nature of data and privacy, especially as it relates to statistics. Kristian discusses how there are ethical gray areas in criminal justice statistics because much of the information is in the public record. Even so, researchers have to be careful about attaching names to data since it could make things more difficult for people incarcerated reentering society.

Rashmi then asks about the reception of Kristian's analysis by various organizations. Kristian shares that while the response is undoubtedly mixed depending on who you're talking to. However, she's surprised by how often she's invited in and given a chance to share her work. One specific example she provides is a project with the NYC Mayor's Office of Criminal Justice, where she advised on a risk assessment tool that helped assess if a person arrested would show up to their court date.

Now, Kristian is combining her past work in epidemiology with her current criminal justice work and studying the spread of COVID-19 in jails and communities. She and her fellow researchers are partnering with the ACLU on this project. Their most significant finding is that reducing infections in prisons reduces infections in the community. She suggests expediting release and arresting fewer people as ways to reduce the spread. She's also working on a project accounting for the time lag between COVID-19 infection and COVID-19 death. Data collected in a time of violence or pandemic relates to case count or deaths as much as it does to where the resources are allocated. So the data for COVID-19 is not always reliable because it reflects the distribution of tests as much as it does the actual cases. She's trying to collect the numbers of deaths from local organizations to estimate the amount of dark deaths or deaths that anyone hadn't counted.

Then Rashmi asks about the ACM FAcct Conference. This is a computer science conference for

people across disciplines; Kristian serves on the organizations executive committee. She shares about the conference, and it's attendees. This leads Kristian to also share about her career trajectory that winds across disciplines and countries as she goes between academia, industry, and nonprofits. In her limited free time, she enjoys sewing costumes, rock climbing, and time in nature and with her daughter.

Key
Takeaways:

1:01 - Kristian introduces herself and what led her to the field of computer science.

3:08 - Kristian talks about her early days in criminal justice statistics and the journey to the Human Rights Data Analysis Group.

6:59 - Rashmi asks Kristian about data and privacy as it relates to criminal statistics

10:36 - Kristian shares how her data has been received.

13:09 - Kristian discusses her past studying infectious disease and how she's using that background now.

22:08 - Rashmi asks Kristian about the ACM Fairness, Accountability and Transparency Conference.

25:02 - Kristian shares an overview of her career journey.

32:16 - Kristian talks about what she's most excited about for the next five years.

Link
s:
Learn more about ACM:
https://www.acm.org/hennessy-patterson-turing-lecture
Learn more about Kristian's work with the Human Rights Data Analysis Group

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