Professor Judy Fan: Cognitive Tools for Making the Invisible Visible

Description

The event was a lecture by Professor Judy Lan from Stanford University about how visualizations turn data into patterns for inference. She talks about how we use surfaces in our environment to carry meaning–first cave walls, then diagrams, and now data plots. She calls this, “tools for making the invisible visible.” There is extensive discussion of her current research about multimodal abstraction to support statistical reasoning.

Something I learned

This talk deepened my understanding of how data visualizations function as cognitive tools shaped by our epistemic goals. For example, if our goal is to compare how two treatments perform, a well-designed plot should make that comparison easy to see. Judy Fan showed that visualizations don’t just display data—they use visual abstraction to emphasize what is most relevant for reasoning and decision-making. This added to my perspective on design as not only a matter of clarity, but also a way to align with how people think.

Connection to INFO 511

The lecture reinforced what we studied through the work of W. E. B. Du Bois and Charles Minard. Their visualizations were designed to help people learn and reason, not just to show data. Judy Fan’s work added a cognitive perspective to this idea by showing how visual tools can guide understanding and support meaningful insight.

https://www.youtube.com/watch?v=AF3XJT9YKpM&ab_channel=MITQuestforIntelligence