institute for pure & applied mathematics

Graduate Summer School on Algorithmic Fairness

JULY 11 - 15, 2022

Scientific Overview

As algorithmic decisions and likelihood predictions reach ever more deeply, and with increasing consequence, into our lives, there is an increasing mandate that they be "fair". This program comprises a short course on the theory of algorithmic fairness taught by Dwork and Rothblum, as well as research talks by leading researchers in some application areas.

After an investigation of an array of "first wave" fairness definitions and their behaviors under composition, the course will highlight a class of desiderata that aim to bridge the gap between statistical and individual fairness notions and examine the meaning of likelihood predictions through the lens of complexity theory. Attention will be paid to open fairness questions surrounding the choice of data by which individuals are represented to the algorithm, and the proxies used for outcomes, the fairness desiderata, and the pressing problem of moving from algorithms that reproduce the world as it is to algorithms that lead us to a more ideal world. The course will end with a deeper look into 1-2 application areas.

This program is followed by a workshop **Who Counts?, Sex and Gender Bias in Data.**

This summer school will include a poster session; a request for posters will be sent to registered participants in advance of the summer school.

Organizers

Noa Dagan (Harvard Medical School)
Cynthia Dwork (Harvard University)
Guy Rothblum (Weizmann Institute of Science)

Speakers

Noa Dagan (Harvard Medical School), Cynthia Dwork (Harvard University), Sendhil Mullainathan (University of Chicago), Ziad Obermeyer (University of California, Berkeley (UC Berkeley), Guy Rothblum (Weizmann Institute of Science)

Participation

Additional information about this summer school including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.

NSF UCLA

For more information, visit the program webpage:
www.ipam.ucla.edu/GSS2022