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Swati Gupta
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"Opportunities for Ethical ML and Supply Chains"

Abstract: In any application area, disparate treatment, disparate impact and resulting unintended outcomes are a reality across the spectrum. These are expected to be further exacerbated by the scale and adoption of cutting-edge technologies (such as optimized ML algorithms, reinforcement learned decisions) and the aftermath of the current pandemic. The interaction of optimization and statistical models with complex socio-economic systems makes development of deployable machine learning algorithms extremely challenging in practice. In this talk, I will discuss opportunities to develop ethical supply chain systems, to mitigate the harm of socio-economic trends embedded in the data, to ensure that the developed systems are fair, ethical, transparent to the extent possible, accountable under uncertainty in the data, and reduce a deeper propagation of biases in multi-level decisions.

Biosketch: Dr. Swati Gupta is an Assistant Professor and Fouts Family Early Career Professor in the H. Milton Stewart School of Industrial & Systems Engineering at Georgia Institute of Technology. She is the lead of Ethical AI at the NSF AI Institute on AI4OPT (ai4opt.org). She received a Ph.D. in Operations Research from MIT in 2017 and a joint Bachelors and Masters in CS from IIT, Delhi in 2011. Dr. Gupta's research interests are in optimization, machine learning and algorithmic fairness. Her work spans various application domains such as revenue management, energy and quantum computation. She received the JP Morgan Chase Early Career Faculty Award in 2021, Class of 1934 CIOS Honor Roll 2021 and NSF CISE Research Initiation Initiative (CRII) Award in 2019. She was also awarded the prestigious Simons-Berkeley Research Fellowship in 2017-2018, where she was selected as the Microsoft Research Fellow in 2018. Dr. Gupta received the Google Women in Engineering Award in India in 2011. Dr. Gupta's research is partially funded by the NSF and DARPA.