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**Title:** Statistical challenges in algorithmic fairness and accountability

**Abstract:** Every year there are more than 4 million referrals made to child protection agencies across the US. The practice of screening calls is left to each jurisdiction to follow local practices and policies, potentially leading to large variation in the way in which referrals are treated across the country. While increasing access to linked administrative data is available, it is difficult for workers to make systematic use of historical information about all the children and adults on a single referral call. Jurisdictions around the country are thus increasingly turning to predictive modeling approaches to help distill this rich information. The end result is typically a single risk score reflecting the likelihood of a near-term adverse event. Yet concerns abound that such systems fail to be trustworthy, and are often not trusted by the public and affected communities. In this talk I will describe some of the work we have been doing on using counterfactual methods to improve the reliability of risk assessment tools. The talk will touch on work we've done both in the lab and in the community as part of developing, deploying and evaluating a prediction tool currently in use in the Allegheny County Office of Children, Youth and Families in Pittsburgh, PA, USA.

**Bio:** Dr. Alexandra Chouldechova is the Estella Loomis McCandless Assistant Professor of Statistics and Public Policy at Carnegie Mellon University's Heinz College of Information Systems and Public Policy. Her research investigates questions of algorithmic fairness and accountability in data-driven decision-making systems, with a domain focus on criminal justice and human services. Her work has been supported through funding from organizations including the Hillman Foundation, the MacArthur Foundation, and the NSF Program on Fairness in Artificial Intelligence in Collaboration with Amazon. She is a member of the executive committee for the ACM Conference on Fairness, Accountability and Transparency (FACCT), and previously served as a Program Committee co-Chair for the conference.

Dr. Chouldechova received her PhD in Statistics from Stanford University and an [H.B.Sc.](#) in Mathematical Statistics from the University of Toronto.

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