Forks Over Knives: Predictive Inconsistency in Criminal Justice Algorithmic Risk Assessment Tools

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Big data and algorithmic risk prediction tools promise to improve criminal justice systems by reducing human biases and inconsistencies in decision making. Yet different, equally-justifiable choices when developing, testing, and deploying these sociotechnical tools can lead to disparate predicted risk scores for the same individual. In this interdisciplinary talk, I examine a phenomenon we refer to as "predictive inconsistency," highlighting how it relates to core values and key ideas in machine learning, statistics, sociology, criminology, law, philosophy and economics. I also discuss how predictive inconsistency can arise at different stages of algorithmic risk assessment tool development and deployment and consider how future technological developments may amplify predictive inconsistency. Then, drawing on philosophical sources, I argue that in a diverse and pluralistic society we should not expect to completely eliminate predictive inconsistency. Instead, to bolster the legal, political, and scientific legitimacy of algorithmic risk prediction tools, a reasonable alternative may be to identify and document relevant and reasonable "forking paths" to enable quantifiable, reproducible multiverse and specification curve analyses of predictive inconsistency at the individual level.

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