

Abstract

Learning About Evidence: Encountering Algorithmic Infrastructures for Criminal Investigations

The vast advances in the field of AI have seen a push of the technology into more and more fields. However, discriminatory and blackboxed outcomes of AI-based technologies have started to polarize the debate around their usage. As a consequence, the quest for trustworthy AI has begun to become more and more important. Drawing from the perspective of science and technology studies (STS), the thesis investigates how ML-based methods embed themselves in the sociotechnical system of making evidence in criminal proceedings and account for the constitutive character of and expectations around AI. This research is based on participant observation of one and a half years and a total of 15 interviews, conducted within an interdisciplinary research project which proposes an ML-based approach to classify document (segments).

The thesis explores the research project's function as a boundary object (Star and Griesemer 1989) and propose the concept of the "learning multiple" to fully capture the complex learning process between the human and non-human participants of the project. It discusses the importance of accounting for the situatedness of knowledge and the multiplicity (A. Mol 2005) of evidence. The introduction of more complex technological methods facilitates changes in these systems, dissolving some of the boundaries between digital forensics and investigative practices. The thesis explores how law enforcement practitioners understand the relationship of their work, ML, and trustworthy evidence by exploring potential tensions remedies of the introduction of ML-based technologies and the sociotechnical system of making evidence, and discusses them as sites of ethical contestations (Heimstädt and Dobusch 2020) in which understandings of transparency, accountability and *trustworthy evidence* are contested and debated. Lastly, the thesis explores their inherent ontological politics, potentially affecting the power relations between states and citizens.