MACHINE LEARNING MEETS LAW

PROGRAM

We value discussions! Therefore, each slot consists of a 20 min talk + 20 minutes for Q&A.

09:00: Opening Remarks

09:10: Ana-Andreea Stoica, MPI-IS
tba

09:50: Bob Williamson, University Tübingen
tba

Coffee Break

11:00: Alina Wernick, University Tübingen
tba

11:40: Kristof Meding, University Tübingen: It's complicated. The relationship of algorithmic fairness and non-discrimination regulations in the EU AI Act
What happens when we ask machines to make fair decisions? This talk explores the challenges of ensuring fair decision-making in AI systems, particularly in the context of the EU AI Act, which intersects with both traditional non-discrimination regulations and algorithmic fairness. We highlight key findings, including the focus on high-risk systems, the inconsistency in data-centric obligations, and the regulatory ambiguities surrounding General Purpose AI Models, proposing new computational oriented auditing and testing methods to bridge gaps between legal and computational approaches.

Lunch Break: Drinks and a light lunch will be served.

13:00: Celestine Mendler-Dünner, ELLIS Institute Tübingen: Quantifying performative power of online search
Algorithms on digital platforms impact consumption. As a result, self-preferencing has become an important concern for competition in the digital economy and the subject of major anti-trust investigations. In this talk I will introduce performative power as a new notion of power that pinpoints the causal relationship between algorithmic actions and user behavior by directly quantifying a firm's ability to steer consumers. I will discuss the relevance of performative power in prediction and digital platform markets, and present an online experiment to measure performative power of online search.

13:40: Carsten Eickhoff, University Tübingen: Juggling 1.8T Balls - The Frontier of LM Interpretation
Modern language models show impressive performance across a wide range of domains and tasks. It is largely unknown how their general-purpose components such as Transformers concretely achieve these goals. This talk will discuss established and cutting-edge methods to model interpretation.

14:20: Moritz Hardt, MPI-IS: Lawma: The Power of Specialization for Legal Tasks.
Annotation and classification of legal texts are vital to empirical legal research but traditionally costly due to reliance on human annotators. With advances in language models, scholars increasingly turn to prompting commercial models like GPT-4. In this talk, I present findings from a study of 260 legal text classification tasks, revealing that a lightly fine-tuned Llama 3 model consistently outperforms GPT-4, often by substantial margins. Fine-tuning on just tens to hundreds of examples yields superior high accuracy, and a single model can handle all tasks. These results highlight fine-tuned open-source models as a cost-effective, superior alternative for legal annotation tasks. Time permitting, I'll discuss progress and challenges in ongoing work about extending the Songer Appeals Court database annotations using model predictions.

15:00: Closing Remarks

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