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ARTIFICIAL INTELLIGENCE
National Laboratory

Centre for Social Sciences ELKH

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Artificial Intelligence National Laboratory (MILAB)

Online Research Seminar Series

AI and Law

Computational Accountability

Speaker: Joris Hulstijn, Tilburg University, Tilburg School of Economics and Management

Time: Thursday, 1 April 2021, 10:00 CET

Computer systems that are based on artificial intelligence, and specifically on machine learning techniques, are more and more pervasive. Based on large amounts of data such systems take decisions that matter. For example, they select our news, they decide to grant a loan or to apply a discount based on a customer profile. Still, some person (human or legal) remains responsible for the decisions being made by the system. Looking back, that person is also accountable for the outcomes, and may even be liable in case of damages. That puts constraints on the design of autonomous systems and on the governance models that surround these decisions.

Can we design autonomous systems in such a way that all decisions can be justified later, and the person who is ultimately responsible, can be held accountable?

In this talk, we will analyse the problem of computational accountability along two lines. First, we will discuss system design. For all decisions, evidence must be collected about the decision rule that was used, and the data that was applied. However, many algorithms are not understandable for humans. Hence the need for explainable AI. Alternatively, we must prove that the system is set up in such a way that it can only

use valid algorithms and reliable data sets, which are appropriate for the decision task. Second, we will discuss the governance model for autonomous systems. What are the standards and procedures, as well as the roles and responsibilities to make sure that only valid algorithms and reliable data are being used in decision making? The discussion will be illustrated by practical examples.

Registration: https://forms.gle/DwJrvChPQxycmhpa9

The seminar will be broadcasted via Zoom application. Participation is subject to prior registration. The Zoom link of the event will be sent to registered participants via email.

Dr Joris HULSTIJN is assistant professor of information management at Tilburg University, Tilburg School of Economics and Management, the Netherlands. He holds a PhD in computer science from the University of Twente, which was awarded for his dissertation on "Dialogue Models for Inquiry and Transaction". He has been teaching about information management, IT auditing and cybersecurity.

His research interests lie in Computational Auditing, Contract Negotiation and Monitoring, and Regulatory Compliance. In the area of Computational Auditing, Joris' research focuses on the use of computational techniques to help auditors assess reliability (accuracy and completeness) of reporting. He is developing *model-based auditing*, a computational approach to auditing and monitoring that makes use of a normative model of the expected relationships between the flow of money and goods (value-cycle). He is also interested in other computational approaches to monitoring and auditing, such as continuous control monitoring, and process mining.

In the area of Contract Negotiation and Monitoring, Joris is working on an approach to give *data subjects more control over their personal data*. It is based on the idea that private law, about contracts, is better suited to protect rights of citizens than public law frameworks like the GDPR, because data is often provided as a kind of 'payment' for a service. We develop a prototype of a dialogue system to help users negotiate an individualised smart contract, that can be automatically monitored and enforced, given an independent platform for data storage. Summarizing, Joris is interested in the role of information systems in demonstrating regulatory compliance.

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MILAB: https://mi.nemzetilabor.hu/

CSS (TK) in MILAB: https://milab.tk.hu/en

The aim of the seminar series is to continue the discourse on the legal and regulatory implications of AI and related technologies in the European and the global legal, economic and social space. It brings together scholars and practitioners with a distinct multidisciplinary orientation covering the technology, its politics, policy-making and regulation, the law, and the relevant values. The series aims to foster a critical understanding of technological changes and a critical analysis of ongoing and future policy, regulatory and legal developments.