ENLIGHT WORKSHOP *AI & LAW: TECHNICAL AND LEGAL CHALLENGES*

Summary

AI systems are being developed at an increasing pace and are already present in virtually every aspect of our lives. There is a consensus that, due to their potential impact, such systems must be carefully regulated. Europe has taken the lead, recently passing the AI Act, the first regulation concerning AI systems in the world.

This opens a new scenario where AI and law professionals will have to work together at the different steps of the life cycle of AI systems, from their conception and development to the resolution of any potential problem derived from their use. The first step for a proper collaboration is good communication and understanding, and that requires both kinds of profiles being able to understand the basic ideas behind the others' work.

This workshop aims at taking a step in that direction, offering a comprehensive overview of AI and its development in a regulated scenario. Moreover, it will be a first experience where both kinds of professionals will have the opportunity to engage in a joint discussion.

The program of this workshop will have both lectures (concentrated in one single day) and practical work. There will be two kinds of participation, full workshop or only lectures.

There will be no limit to the number of participants attending the lectures, but for the full workshop participation the places will be limited to 30, 15 with a technical profile and 15 with a legal profile.

In the practical work, the participants will have to work in groups (that combine both types of profiles) in a real-life case. At the workshop's end, the groups will present their conclusions and discuss the results. This discussion will be open to all the participants, including those only attending the lectures.

Speakers

Zully Ritter	Department of Medical Informatics, University of Göttingen
Andreas Kotsios	Department of Business Studies, University of Uppsala
Eva Lievens	Department of Law & Technology, University of Ghent
Griet Verhenneman	Department of Criminology, Criminal Law and Social Law, University of Ghent
Itziar Alkorta	Department of Corporate and Civil Law, University of the Basque Country (UPV/EHU)
Usue Mori	Department of Computer Science and Artificial Intelligence, University of the Basque Country (UPV/EHU)
Borja Calvo	Department of Computer Science and Artificial Intelligence, University of the Basque Country (UPV/EHU)
Ainhize Barrainkua	Basque Center for Applied Mathematics (BCAM)

Program overview

DAY 1 – October 7, 2024		
8:30 – 9:00	Check in	
9:00 – 9:15	Welcome and presentation of the workshop	
9:15 – 10:15	AI intro	AI in the Current Digital World (Borja C.)
	Law intro	Law 101 – An Introduction to Law for Non-lawyers (Andreas K.)
10:15 – 11:15	AI intro	What is Behind AI? (Usue M.)
	Law intro	The European Approach to Fundamental Rights: an Introduction for Non-lawyers (Griet V.)
Coffee break		
11:45 – 12:45	Explainable AI: Increasing Trustworthiness and Acceptance of Machine Learning Applications in Healthcare (Zully R.)	
12:45 – 13:45	Legal Challenges of Artificial Intelligence: Exploring Regulation, Rights and Responsabilities (Eva L.)	
Lunch break		
15:30 – 16:30	Current Challenges in Algorithmic Fairness (Ainhize B.)	
16:30 – 17:30	Who´s Responsible for the Damages Caused by the IA? (Itziar A.)	
17:30 – 18:00	Presentation of the practical cases and group creation (Eva L. *et al.*)	
DAY 2 – October 8, 2024		
9:00 – 11:00	Practical cases: joint interdisciplinary discussion	
Coffee break		
11:30 – 13:30	Practical cases: joint interdisciplinary discussion	
Lunch break		
15:00 – 16:30	Presentation and discussion of the results	

Program details

AI in the current digital world (for law professionals)

This talk will introduce some basic concepts related to the digital world and AI systems that will be the basis for a proper understanding of the topics discussed in the workshop.

After a brief discussion of what is and what is not AI (nowadays), basic concepts such as algorithm, model or cloud computing will be presented in a non-technical way. Finally, the main uses of AI will be presented.

What's behind AI? (for law professionals)

Once the basic concepts are understood, this talk will go into some details about how AI models are trained and evaluated, and how this impacts in the final created systems. The talk will also provide a general idea of the life cycle of an AI project.

Law 101 – An Introduction to law for non-lawyers (for tech professionals)

This talk, as the subtitle suggests, is a crash course in the basics of law. It covers some of the main ideas concerning the nature, function, and mechanisms of law in general, along with an introduction to the fundamentals of EU law, where most AI-related regulation is found, and the key areas of EU law that are related to AI. This lecture will provide participants with the terminology and understanding needed to better grasp the specific issues that will be presented in the upcoming lectures.

The European approach to fundamental rights: an introduction for non-lawyers (for tech professionals)

The European Artificial Intelligence Act (2024) aims "to promote the uptake of human centric and trustworthy AI while ensuring a high level of protection of health, safety and fundamental rights". In the European tradition, fundamental rights are at the core of many lawmaking initiatives, including those that regulate

new technologies such as artificial intelligence. In this lecture, we introduce the Charter of Fundamental Rights of the European Union, its implications, and its impact on the international and Member State levels. While a general overview of the Charter's contents is provided, we very quickly zoom in on the specific rights and freedoms that are often discussed in relation to AI: the protection of personal data, freedom of thought, non-discrimination and workers' rights. Consider this lecture a fast-track experience that will help you gain the background information necessary to participate in the legal challenges and practical cases.

Legal challenges for and regulation of Artificial Intelligence (for both legal and tech professionals)

This talk will focus on the impact of AI on fundamental rights, including the right to non-discrimination and privacy, with a specific focus on particular groups (e.g. children or minority groups) and explore how recent legislative developments, such as the EU AI Act, aim to regulate AI in order to minimise (potential) negative impact on individuals.

Explainable AI, increasing trustworthiness and acceptance of machine learning applications in healthcare (for both legal and tech professionals)

In the realm of machine learning non-linear models or models of significant complexity, like some ensemble methods or neural networks, require additional tools to identify the " important " variables used to make the model prediction. Some of these tools are SHAP(https://shap.readthedocs.io/en/latest/), LIME(https://github.com/marcotcr/lime), or tools that already contain a set of such explainable models (Captum AI (https://captum.ai/)). The explanation of the most important variables (features) in the models (global explanation) and interpretability of the prediction for a patient (local explanation) is then possible. In this workshop, the participants will learn the challenges and advantages of integrating explanations and tools used in machine learning in a general form. But also to apply them specifically and exemplarily for healthcare applications to

guarantee reproducibility and increase the trustworthiness of machine learning models used for decision-making. These methods are usable in different application fields.

Current Challenges in Algorithmic Fairness (for both legal and tech professionals)

Nowadays AI systems have an extraordinary capacity to learn from data. This allows us to create very powerful models, but it also has certain disadvantages, as not only the underlying patterns are learned, also the biases present in the data used for the training are captured by the models.

While some of these biases may be reasonable and relevant, many others may reflect unfair and discriminatory scenarios. In this talk we will present a discussion of the current advances in the treatment of fairness in the algorithms developed to train AI models from data.

Who´s responsible for the damages caused by the IA? (for both legal and tech professionals)