

## DOCTORAL POSITION (M/F/X): FULL-TIME (48 MONTHS)

### “LEGAL AND TECHNICAL LIMITS TO JUDICIAL PROTECTION IN LITIGATION INVOLVING ARTIFICIAL INTELLIGENCE”

### COMPUTER SCIENCE AND LAW

Montefiore Institute (ULiège) & JUST-AI Centre d'excellence Jean Monnet (ULiège) & JURISLAB (ULB)

**START DATE: 1 December 2025**

**DEADLINE: Open until filled**

Located in the French-speaking part of Belgium, the University of Liège welcomes nearly 27,000 students of 123 different nationalities in a dynamic, multicultural city less than an hour away from Brussels and Cologne, two hours from Paris and three hours from London and Amsterdam. ULiège is spread across 4 campuses and boasts over 5,700 staff members, including 3,600 teachers and researchers active in all areas of the humanities and social sciences, science and technology, and health sciences.

As a key player in social change and environmental awareness, ULiège promotes ethical, transdisciplinary and open science. It contributes to the socio-economic development of its region through numerous partnerships with several institutions, including the university hospital (CHU). Given its international orientation, the University participates [in the European University of Post-Industrial Cities \(UNIC\)](#) initiative and has one of the most extensive collaborative networks in the world.

ULiège offers attractive career prospects [in a high-quality working environment](#) where well-being, diversity and equality of opportunity are promoted. Since 2011, ULiège has been proud to display the European [Human resources strategy for researchers \(HRS4R\)](#) label, which reflects its commitment to open, transparent and merit-based procedures. In addition, it upholds quality and diversity in line with the recommendations of the [Coalition for Advancing Research Assessment \(CoARA\)](#). ULiège encourages its academic staff to travel internationally and welcomes international researchers through its EURAXESS center.

#### ABOUT THE RESEARCH PROJECT

The successful candidate will receive funding to carry out doctoral research (full-time, 48 months) as part of the PDR-FNRS project **Access Evidence, Uncover Causality - Informational Transparency as Cornerstone of a Needs-Based Theory of Procedural Fairness in AI Liability Disputes** ([KNOW.THY.AI](#)).

The PhD candidate's **primary affiliation** will be with the [Montefiore Institute](#) (U.Liège). They will also be affiliated to [Jurislab](#) - an **Interdisciplinary Research Unit of the Center for Private Law / Fab Lab ULB, directed by Prof. Julien Cabay**.

KNOW.THY.AI is an interdisciplinary project carried out by researchers with expertise in law and computer/data science.

Focused on judicial protection in disputes involving intelligent systems, the ambition of this project is to clarify and map the procedural safeguards that human agents (programmers, deployers) should benefit from in cases where AI-related harm materializes.

Although AI procedural regulation has recently begun to emerge, namely at EU level, neither scholarship nor court practice provide definitive solutions regarding the **types of evidence litigants should be legally entitled to consult, produce and explain** when called upon to establish fault and causation, in judicial instances addressing AI liability issues.

The KNOW.THY.AI project will fill this gap by carrying out ambitious interdisciplinary research. First (**Work Package - WP1**), it will map the most relevant and compelling evidence in the field of AI liability, based on **a consultation with at least 140 experts** (legal practitioners, courts, AI programmers, academics) selected from **two European organizations (EU, Council of Europe)** and **five European states (Belgium, France, Netherlands, Germany and Italy)**.

By determining their probative value using the **ANOVA method**, KNOW.THY.AI will create a taxonomy of evidence items which, in a second phase (**Work package - WP2**), will serve as a basis to formulate regulatory proposals for the creation of a new regulatory framework of procedural abilities that litigants must have, so that AI liability disputes can be effectively resolved.

The third stage (**Work package - WP3**) will involve creating an AI system, programmed for natural language processing (NLP) and made available on the JUST-AI Jean Monnet Centre of excellence website. The aim of this system will be to be made available to and used by stakeholders when they seek to obtain relevant information dealing with issues of harm(s) and causality involving intelligent systems.

KNOW.THY.AI will thus suggest a model for a **needs-based theory of procedural fairness** in the field of AI liability, highlighting the procedural paths that litigants should be able to take so that the effectiveness of their jurisdictional protection can be enhanced.

## JOB DESCRIPTION

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The KNOW.THY.AI offers a unique opportunity to work at the intersection of two fundamental subjects, with deep societal ramifications, namely AI (Computer Science) & Law.

As a PhD researcher, you will work on the development of NLP methods combined with Knowledge Engineering to develop novel AI-based methods/tools for the legal domain, promoting procedural transparency in liability cases involving AI systems.

Specifically, you will advance the current state of the art by:

- 1) building a legal-technical knowledge base with information from relevant sources, e.g. national and European frameworks on evidence and fair trial safeguards, provisions on IP safeguards and confidentiality of information (e.g. trade secrets) as well as national and European caselaw on the right to access evidence, the right to defense and the equality of arms principle.
- 2) Develop and implement AI/NLP methods focusing on explainability and explicability.

- 3) Develop interoperable systems or agents to inspect and audit AI functionalities while complying with intellectual property requirements.

You will be working in close collaboration with and benefit from the expertise of legal scholars and computer scientists within the JurisLab research unit (ULB), under the joint supervision of Prof. Christophe Debruyne, Prof. Ljupcho Grozdanovski, and Prof. Julien Cabay. The candidate will contribute to empirical data modeling, knowledge engineering, and prototype building. Other tasks include integrating user feedback and delivering open-source tools for legal professionals.

The PhD thesis will focus on the technical and legal boundaries of evidence disclosure in high-risk AI systems, aiming to enhance access to justice through innovative, explainability-driven auditing methods.

## SPECIFIC DUTIES AND ACTIVITIES

- ▶ Participate in interdisciplinary collaboration with legal experts and computer scientists working at the junction of AI & Law
- ▶ Investigate different NLP methods (incl. LLMs if applicable) to automatically learn a knowledge-graph (or ontology) from legal texts
- ▶ Define and implement ontologies.
- ▶ Develop and maintain a structured knowledge base.
  - Design and develop automated auditing tools.
  - Contribute to the open-source releases.
- ▶ Engage in testing and validation.
- ▶ Disseminate research findings in conferences and journals.
- ▶ Present research outputs.
- ▶ Write and defend a doctoral dissertation.
- ▶ Complete the doctoral program.

## PROFILE

### ○ REQUIRED SKILLS:

- ▶ The Ph.D. candidate must hold an MSc or MEng in computer science or equivalent and meet all the requirements to enroll in the university's doctoral program. Please note that your master's degree must be equivalent to a Belgian master's degree (180 ECTS/3 years BSc or BEng, followed by 120 ECTS/2 years MSc or MEng).
- ▶ Proficiency (in Python) for machine learning, NLP, and data processing.
- ▶ Familiarity with machine learning and deep learning.

### ○ DESIRABLE SKILLS:

- ▶ Understanding Explainable AI (XAI) concepts and their application.
- ▶ Knowledge of legal tech, AI ethics, and fairness in AI.
- ▶ Experience in knowledge graphs.
- ▶ Ability to design and build structured knowledge bases and define ontologies.

- ▶ Familiarity with regulations such as the GDPR and the AI Act.
- ▶ Familiarity with software development best practices, including version control using Git.

○ **HUMAN SKILLS:**

- ▶ Ability to work with legal scholars and engineers.
- ▶ Excellent written and verbal communication skills.
- ▶ Curiosity and adaptability in exploring unfamiliar legal and regulatory topics.
- ▶ Team player with a willingness to take initiative and accept feedback.
- ▶ Strong analytical thinking and attention to detail.
- ▶ Ability to manage time effectively.
- ▶ Work independently within a structured research timeline.

○ **LANGUAGES:**

- ▶ Excellent level in English (C1 level is mandatory)
- ▶ Very good/working knowledge of French is a plus

## TERMS OF EMPLOYMENT

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- ▶ **TYPE OF CONTRACT:** FIXED TERM
- ▶ **WORKING HOURS:** 40/WEEK (FULL TIME)
- ▶ **CONTRACT DURATION:** 48 MONTHS
- ▶ **EXPECTED START DATE:** 1 DECEMBER 2025

## OUR OFFER

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**Brut Monthly Salary (Net): 2.461,44€ (scholarship exempted from tax)**

The selected candidate will be primarily affiliated with the ULiège and will work under the joint supervision of Professors Christophe Debruyne (Montefiore Institute) and Ljupcho Grozdanovski (Faculty of Law, Political Science and Criminology). As a candidate pursuing a joint degree with ULB, they will also be encouraged to join the Jurislab interdisciplinary team (law and computer science) on a weekly basis, under the supervision of Prof. Julien Cabay.

**Telework is possible.**

Possibility to get access to a range of [specific training courses](#) for researchers.

▶ **WORK ENVIRONMENT**

**ULiège (primary affiliation):** The [Montefiore Institute](#) is both the Department of Electrical Engineering and Computer Science of the University of Liège, and the associated Research Unit. Its mission is to provide high quality education at the Bachelor's, Master's and Doctoral levels, to conduct leading international research in selected areas of electrical engineering and computer science, and to be a driving force in turning research results into industrial activity.

The Montefiore Institute is currently active in a range of basic and applied research topics in various areas such as: Artificial Intelligence and Machine Learning, Computer Vision, Digital Processing, and Robotics, Cybersecurity and Computer Systems, Electric Power and Energy

Systems, Electronic Circuit Design and Sensors, High Performance Computing, Materials for Electrical Engineering, Neuroengineering, Numeric Simulation, Optimisation, and Control, Theoretical Computer Science

The Institute is also active in technology transfer through the creation of spin-off companies, and is the home of three main research and testing facilities that were established with major outside funding: the MICROSYS laboratory offers certified clean rooms and many facilities for the production and characterization of microsystems, the Electromagnetic Compatibility Laboratory (EMC) performs tests on electrical appliances in conformity with international and European standards, the Low Voltage Laboratory (LEP) is set up to offer a variety of breaker tests.

**ULB (secondary affiliation) :** [JurisLab](#) is a research unit of the ULB Centre for Private Law, dedicated to the law of creation and innovation. Taking an interdisciplinary approach, JurisLab is housed in the ULB Fab Lab, where its members collaborate with academics and scientists from other ULB faculties (Architecture, Polytechnics, Science). JurisLab also works closely with the [Laboratory of Image Synthesis and Analysis \(LISA\)](#) at the *Ecole Polytechnique*.

Collective and individual research covers intellectual property, data, consumer, competition and unfair competition law, as well as the interactions between them.

Collective research focuses on six main areas: 1) Intellectual property, trade secrets, data and artificial intelligence; 2) Creations and open science; 3) Consumer affairs, trademarks, competition and personal data; 4) Innovation and law; 5) Art and law; 6) Pedagogical innovations.

JurisLab members are lawyers and engineers, academics and/or practitioners in the fields concerned. Their ambition is to make a forward-looking contribution to the development of these subjects, taking into account the various interests at stake. They enjoy complete independence and autonomy in their research. They adhere to the principles of Open Data, Open Source and Open Access. Their publications are available in [DI-fusion](#), ULB's institutional repository.

JurisLab's working languages are French and English.

JurisLab was co-founded in 2019 by Prof. Andrée Puttemans and Julien Cabay. Prior to this date, research in the JurisLab's areas of expertise was conducted within the Unité de droit économique (under the direction of Andrée Puttemans). Since 2021, it has been headed by Prof. Julien Cabay.

## HOW TO APPLY?

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**Contact :** email

**Contact persons :** Mr Christophe Debryne (C.Debryne@uliege.be), Mr. Ljupcho Grozdanovski (lgrozdanovski@uliege.be), Mr. Julien Cabay (cabay@uliege.be) and Mr Ashwin Ittoo (Ashwin.Ittoo@uliege.be).

**Documents/references to be supplied:** cover letter, detailed CV, letter of recommendation and a publication in a review/journal or, if no publications are available, the candidate's Masters

thesis. The application documents should include the vacancy reference **KNOW.THY.AI.DOC.IT.2025**.

## SELECTION PROCEDURE

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- ▶ The **selection committee** will include **M. Ljupcho Grozdanovski** (Assoc. Research Prof. FNRS/ULiège), **M. Julien Cabay** (Prof. ULB/ULiège), **M. Christophe Debruyne** (Prof. Montefiore Institute/ULiège) et **M. Ashwin Ittoo** (Prof. HEC/ULiège).
- ▶ Shortlisted candidates will be interviewed online on a rolling basis until the position is filled.
- ▶ The earliest contract start date is **December 1, 2025**.

**Our corporate policy is based on diversity and equal opportunity. We select candidates on the basis of their skills and do not discriminate on grounds of age, sexual orientation, origin, beliefs, disability or nationality.**

## CONTACT DETAILS

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Informal inquiries about the project are welcome.

Please feel free to contact by email Mr Christophe Debruyne ([C.Debruyne@uliege.be](mailto:C.Debruyne@uliege.be)), Mr Ljupcho Grozdanovski ([lgrozdanovski@uliege.be](mailto:lgrozdanovski@uliege.be)), Mr Julien Cabay ([cabay@uliege.be](mailto:cabay@uliege.be)) or Mr Ashwin Ittoo ([Aswhin.Ittoo@uliege.be](mailto:Aswhin.Ittoo@uliege.be)).

Release date: 9 October 2025

## Privacy policy

Personal data collected following your application will be processed by Christophe Debruyne, Ljupcho Grozdanovski (ULiège) and Julien Cabay (ULB) for the sole purpose of recruitment.

The data will be processed within the framework of pre-contractual measures (art. 6-1, b. of the General Data Protection Regulation) and kept for up to 9 months after the publication of the vacancy. Your personal data will not be passed on to any third parties.

In accordance with the provisions of the GDPR (EU 2016/679), you may exercise your data protection rights (right of access, rectification, erasure, restriction, and portability) by contacting ULiège Data Protection Officer (dpo@uliege.be - Mr. Data Protection Officer, Bât. B9 Cellule "GDPR", Quartier Village 3, Boulevard de Colonster 2, 4000 Liège, Belgium). You may also lodge a complaint with the Data Protection Authority (<https://www.autoriteprotectiondonnees.be>, contact@apd-gba.be).