

EDITORS' NOTE: INTRODUCTION TO THE THEMATIC ISSUE ON RESPONSIBLE ARTIFICIAL INTELLIGENCE AND PLATFORM LABOUR

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By increasing the number of social and industrial applications of big data, Artificial Intelligence (AI), Machine Learning (ML) and Algorithmic Management (AM) technologies have become increasingly important for Digital Transformation. AI and ML have become an integral part of our life, the cognitive work system and its broader social or organisational context. Multi-disciplinary research into AI and ML, along with convincing empirical evidence, is essential for it to be understandable, useable, and useful. The scope of explainable AI (XAI) is very broad, encompassing diverse technical methods, theories of explainability and understanding, philosophical perspectives, ethical considerations, legal issues, human-centred evaluations, and applications. These involve many different fields, including but not limited to computer science and informatics, legal studies, cognitive science/psychology, sociology and political sciences. This special issue aims to provide a common forum to bring these different perspectives together for the benefit of the international research community.

The essays in this special issue deal with an extremely rapidly growing field of studies, highlighting the contributions of AI, ML and AM technologies to both social and energy sciences, as well as providing legal perspectives on AI regulation and especially on the variety of labour platforms.¹

¹ The number of online web-based (e.g. Upwork, Topcoder) and location-based (e.g. Uber, Foodora) platforms rose from 142 to over 777 in 2020. ILO (2021): The Role of Digital Labour Platforms in Transforming the World of Work, 19, see: <https://www.ilo.org/publications/flagship-reports/role-digital-labour-platforms-transforming-world-work>

The essays in the Special Issue explore novel concepts and practices in the following fields: deep learning in the social sciences, AI and ML in smart grids, theoretical perspectives on the legal regulation of AI, the legal and social regulation of various types of labour platforms and the inclusiveness of digitalisation.

The essays are organised in two sections.

1. Applications of AI and ML: Selected examples in social science and energy sciences, with a special focus on regulation issues
2. Legal regulation, digital usage groups and a variety of empirical experiences of platform labour as it relates to work practices

1: Application of AI and ML: Selected examples in social and energy sciences, with a special focus on regulation issues

The leading essay by Sina Ardabili, Amir Mosavi, Csaba Makó and Péter Sasvári, *A Comprehensive Review and Evaluation of Deep Learning Methods in Social Sciences* analyses the emergence of Deep Learning (DL) as a novel data-driven methodology. The paper aims to systematically review and assess the performance of DL methods in the field of social sciences. Publications were sourced from Scopus and Web of Science (WoS). Applications in social sciences were categorised into twelve domains: social information, social network analysis, social development, social movements, social inequalities, social cooperation, social conflicts, social technology, social health, social risks, the social environment, and social media. The findings suggest that evaluation criteria play a crucial role in determining the effectiveness of DL models.

Rituraj Rituraj, David T. Varkonyi, Amir Mosavi, József Pap, Annamária R. Várkonyi-Kóczy and Csaba Makó's article, *Machine Learning in Smart Grids: A Systematic Review, Novel Taxonomy, and Comparative Performance Evaluation* presents a state-of-the-art review of machine learning (ML) methods and applications used in smart grids to predict and optimise energy management. The article proposes a new taxonomy for categorising ML models and evaluates their performance based on accuracy, interpretability, and computational efficiency. Finally, the article discusses some of the limitations, challenges and future trends of using ML in smart grid applications. The value-added contribution of the article is that it highlights how ML can enable the creation of efficient and reliable smart grid systems.

In his article, *Upside Down: Liability, Risk Allocation and Artificial Intelligence*, Tamás Fézer challenges the currently dominant concepts of liability in relation to the rapid growth of AI and ML. This paper examines some of the most affected fields of tortious liability, and analyses whether the existing legal standards in civil liability can still be used, or whether a brand-new approach needs to be adopted and therefore, novel liability scenarios should be established. Considering the patchy and sporadic regulatory framework underlying AI and ML in civil liability, the paper aims to serve as a blueprint for an instrumental research study that would target concept and policy building for regulators and legal practitioners alike.

2: Legal regulations, digital usage groups and variety of empirical experiences of platform work

The paper by Zsolt Zödi entitled *A Legal Theory of Platform Law* examines the recent discussions in the field of platform law from a jurisprudential point of view. The essay argues that the main reason for regulation is that platforms, as coordination mechanisms, tend to become unstable without intervention or to become harmful from the point of view of society. The paper lists four features which characterise platform law: its ex-ante regulatory nature, the predominance of technology regulation and self-regulation, and the extensive use of user protection tools, such as complaint mechanisms, the protection of user accounts and explainability obligations. The latter toolbox partly resembles the familiar and well-established methods of consumer protection, but in certain aspects, it also differs from it.

Drawing on a rich empirical analysis, Tuomo Alasoini's article *Digital Tools Usage Groups as Features of the Digital Divide between Finnish Employees* argues that digitalisation relates to the work of different employees in different ways. The paper attempts to make a theoretical contribution by examining how the research results relate to the previous research literature on digital divides. The empirical evidence is not fully in line with the stratification theory argument, according to which the digital world reproduces offline inequalities. For example, many of the employees in the study who have a relatively low level of education, especially young employees, are classed as Skilled Users in terms of their digital skills. As a practical contribution, the paper reveals that there are usage gaps of various types. To bridge them, there are no easy one-size-fits-all solutions.

The paper by Branka Andjelkovic, Tanja Jakobi and Ljubivoje Radonjic *Right Before Your Eyes, Yet Unnoticed: The Growth of Online Labour and Country Differences in Southeast Europe* makes a cross-country analysis of the online web-based platforms in nine selected Southeast European countries. Digital labour platforms, as part of an innovative business model, play an important role in today's labour markets by linking the demand and supply of digital work. The number of online workers increased in all the countries investigated, with creative services and multimedia and software development being the most dominant fields employing online workers in each country. Moreover, men are more commonly represented in these digital markets compared to women. The results of the analysis can provide useful information to national policymakers, as they work to address the novel challenges in the labour market brought by technological advancements.

In *The Consequences of (in) Visibility for Platform Workers*, Laura Seppanen analyses how digital infrastructures can lead to considerable increases in the behavioural visibility of people. This paper aims to examine the consequences of visibility for workers who carry out work tasks via digital labour platforms. Visibility paradoxes of connectivity, performance and transparency are used as methodical lenses. The same features of platform operations can have both empowering and marginalising consequences for workers at the same time. While labour platforms continuously improve visibility for workers, they may also hide, inadvertently or intentionally, central information.

Anna Ürmösy, in *Control or Resistance? The Role of Gamification in Algorithmic Work Management* examines the work organisation of *Foodpanda*, and the bicycle couriers' strategies related to the gamification of work in this sector. The games contribute to the formation of consent among the couriers. However, some games can be seen as a form of resistance. Taking part in the games initiated by the platform (from above), the couriers are obliged to accept the rules and the logic of the work organisation. On the other hand, some games initiated by the platform workers (from below) have the potential to make work easier, allowing for strategies that sabotage the system in minor ways. While these practices can be seen as a form of resistance, it remains unclear whether they cause actual financial damage to the company.

Klára Nagy's article, *Body and Mind. Reframing Labour Exploitation and Risk as a Sport among Platform Workers* also focuses on the food delivery service business, which has been one of the most visible sectors in the platform economy in recent years – especially during the Covid-19 pandemic. She explores how bicycle delivery workers accept, normalise, and justify precarious working conditions, labour exploitation and risk. The essay tries to understand the blurring frontiers between sport and work. Based on participant observation and interviewing platform workers, the author examines how food delivery companies create new frontiers, framing labour as a challenging cardio activity. The riders embrace the idea that they get paid for training their bodies, an activity that is otherwise expensive and tiring.

THE WAY FORWARD

The editors – instead of drawing conclusions – wish to enrich the further discussion at a time of the dizzying technological changes, adopting the perspective outlined by Acemoglu & Johnson's recent emblematic book: "The type of government leadership we advocate [...] seeks to encourage the development of technologies that are more complementary to workers and citizens empowerment rather than trying to select specific technological trajectories."² This powerful perspective highlights the importance of making careful choices in order to balance benefits for employers (i.e. productivity) and employees (i.e. improving quality of life) while reducing the adverse impacts for society.

With this in mind, we intend to draw attention to the following future challenges for both the communities of practitioners and academics. Firstly, it is worth focusing on the development of human-centred AI regulation, and secondly on the need to address some understudied areas of platform-related research.

² ACEMOGLU, Daron – JOHNSON, Simon (2023): *Power and Progress. Our 1000-Year Struggle over Technology & Prosperity*. New York: PublicAffairs, 410.

Regulatory burden

In 2023, the US Senate launched a series of “AI Insight Forums” hosted jointly by the two dominant political parties. As part of this initiative, a session held on 1st November was dedicated to the way AI will change the world of work. Coincidentally, the European Council and the Parliament agreed in December 2023 on a legal³ regulation of AI (the AI Act). In this haste to pass AI regulation – on both sides of the Atlantic – it is worth stressing the urgent need for “evidence-based” regulation initiatives in order to avoid the so-called “non-alignment regulatory syndrome”. The recent report of the Stanford University Human Centred Artificial Intelligence stresses: “Rather than rushing to poorly calibrated or infeasible regulation, policymakers should first seek to enhance the government’s understanding of the risks and reliability of AI systems.”⁴ Similarly, the employers’ organisation in Europe (Business Europe) insists that in the context of “lack of consistent and robust data across different sectors [...] any initiative at EU level will need to be assessed carefully and should not take the form of new European legislation”.⁵ These important observations draw attention to the fact that if we do not allow enough time to understand a phenomenon that is as new as AI is, then hastily enacted regulations can do more harm than good.

Knowledge deficiencies of platform work research

The majority of essays in the Special Issue mapped and assessed the various characteristics (e.g. surveillance, digital agency, visibility, consent, and resistance, etc.) of platform labour both from Southern/Central European and Nordic Perspectives. It is worth noting the asymmetric/unbalanced nature of empirical data collection on platform work and the related European legal regulation efforts. The recent regulation of working and employment conditions is centred on “location-based platform” workers operating in the delivery economy.⁶ At the same time, there are rather few and sporadic global initiatives aimed at regulating freelancers’ services on the so-called “web-based digital platforms”.⁷ Finally, the other generally underestimated dimension of platform work research is that, conceptually, researchers have reached a consensus on the key control role of customers/

³ See: www.techpolicy.press/us-senate-ai-insight-forum-tracker/

⁴ GUHA, Neel et al. (2023): *The AI Regulatory Alignment Problem*. Stanford: Stanford University Human-Centred Artificial Intelligence, RegLab, 3.

⁵ *Algorithmic Management at Work: Improving Transparency to Achieve More Trust in AI* (2023). Brussels: Business Europe, Policy Orientation Note, 2.

⁶ European Parliament, Committee on Employment and Social Affairs (2022): *Report on the Proposal for a Directive of the European Parliament and of the Council on Improving Working Conditions in Platform Work*. A9-0301/2022, 21 December 2022.

⁷ Charter of Principles for Good Platform Work (2020). World Economic Forum, 4.

clients on the platform workers' behaviour. However, the syndrome of "talking the talk" dominates without fully "walking the walk": besides the theoretical discussion, systematically collected empirical evidence about this key actor's role in the platform work is largely missing.⁸

⁸ Until presently, the rare exception of this critic is the following paper – focusing on the practice of the location-based delivery platforms: SCHOR, Juliet B. et al. (2023): Consent and Contestation: How Platform Workers Reckon with the Risks of Gig Labour. *Work, Employment and Society*, (September), 35.