

Promises and Perils of Artificial Intelligence and Machine Learning: Disruption, Adoption, Dehumanization, Governance, Risk and Compliance

Valeria Sadovykh
University of Auckland
valeriasadovykh@gmail.com

David Sundaram
University of Auckland
d.sundaram@auckland.ac.nz

In the last decade, Artificial Intelligence (AI) and Machine Learning (ML) have developed from peripheral technologies to dominant drivers of innovation. They are routinely used to recognize images; parse speech; respond to questions; make decisions; and replace humans.

Given that AI and ML tools are becoming a part of our everyday lives, it is critical that researchers and practitioners understand their state of art, adoption and influence. Improperly deployed AI and ML tools can violate privacy, threaten safety, and take questionable decisions that can affect individuals, organizations and ultimately society.

This minitrack focus is on the promises and perils of AI and ML with a particular emphasize on (a) adoption, (b) disruption, (c) potential dehumanization, and (c) governance, risk and compliance mechanisms required to protect and enhance human wellbeing. We welcomed wide-ranging papers with qualitative and quantitative orientations; with theoretical and practical contributions; from personal, organizational and societal perspectives.

This mini track was proposed for the first time this year and attracted a substantial number of interesting papers. We have selected the best three for the conference proceedings.

The first paper, *Re-thinking the Competitive Landscape of Artificial Intelligence*. There is a remarkable increase in the adoption of AI technology in organizations resulting in increased revenue, reduced costs and improved business efficiency. Despite this trend, there are still many organizations that are facing the decision whether to adopt AI. Thus, to evaluate the adoption of AI at organizational-level, the paper proposed two-grounded theories: Technology-Organizations-Environment (TOE) framework and Diffusion of Innovation theory (DOI) to identify factors that influence the adoption of AI. Survey data collected from 208 large, medium-sized and small organizations in Australia is used to test the proposed framework. The authors offer a method of examining AI over a set of organizations.

The second paper, *The Genie in the Bottle: Different Stakeholders, Different Interpretations of Machine Learning*. The authors explored how people developing or using a system with a machine-learning (ML) component come to understand the capabilities and challenges of ML. The paper draws on the social construction of technology (SCOT) tradition to frame their analysis of interviews and discussion board posts involving designers and users of a ML-supported citizen-science crowd-sourcing project named Gravity Spy. The results explain that the type of

understandings achieved by groups having less interaction with the technology is shaped more by outside influences and less by the specifics of the system and its role in the project. This initial understanding of how different participants understand and engage with ML points to challenges that need to be overcome to help users of a system deal with the opaque position that ML often holds in a work system.

The final paper, *Developing Fairness Rules for Talent Intelligence Management System*. Talent management is an important business strategy, but inherently expensive due to the unique, subjective, and developing nature of each talent. Applying artificial intelligence (AI) to analyze large-scale data, talent intelligence management system (TIMS) is intended to address the talent management problems of organizations. While TIMS has greatly improved the efficiency of talent management, especially in the processes of talent selection and matching, high-potential talent discovery and talent turnover prediction, it also brings new challenges. Ethical issues, such as how to maintain fairness when designing and using TIMS, are typical examples. Through the Delphi study in a leading global AI company, this paper proposes eight fairness rules to avoid fairness risks when designing TIMS.