

> Thursday, April 27th, 2023

10:00 – 11:30

> MIS, online

**RESEARCH
SEMINAR**



EMPOWERING CHANGEMAKERS FOR A BETTER SOCIETY

‘BEYOND EFFECTIVE USE: INTEGRATING WISE REASONING IN MACHINE LEARNING DEVELOPMENT’

BY MORTEZA NAMVAR & SAEED AKHLAGHPOUR



ABSTRACT

The introduction of machine learning (ML), as the engine of many artificial intelligence (AI)-enabled systems in organizations, comes with the claim that ML models provide automated decisions or help domain experts improve their decision-making. Such a claim gives rise to the need to keep domain experts in the loop. Hence, data scientists, as those who develop ML models and infuse them with human intelligence during ML development, interact with various ML stakeholders and reflect their views within ML models. This interaction comes with (often conflicting) demands from various ML stakeholders and potential tensions. Building on the theories of effective use and wise reasoning, this mixed method study proposes a model to better understand how data scientists can use wisdom for managing these tensions when they develop ML models. In Study 1, through interviewing 41 analytics and ML experts, we investigate the dimensions of wise reasoning in the context of ML development. In Study 2, we test the overall model using a sample of 249 data scientists. Our results confirm that to develop effective ML models, data scientists need to not only use ML systems effectively, but also practice wise reasoning in their interactions with domain experts. We discuss the implications of these findings for research and practice.

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BIOS



MORTEZA NAMVAR is an Assistant Professor (Lecturer) in the Business Information Systems discipline at UQ Business School. Morteza is a dedicated Machine Learning (ML) scholar and specialist. The overarching topic of his research program is explaining and using ML and NLP (Natural Language Processing) in organisations. The followings are the main research themes that Morteza is pursuing in his academic career: a) Effective use of ML, b) Using the existing ML and NLP techniques for social media analytics, and c) Improving and optimising ML and NLP techniques. Morteza has had success in attracting several external funding for NLP projects. His works are published in top-tier IS and computer science journals, including IJIM, CAIS and Internet Research, and conferences including ICIS and HICSS. Morteza teaches ML using Python in the UQ business school.



SAEED AKHLAGHPOUR is a Senior Lecturer in Information Systems at The University of Queensland Business School, Australia. He holds a PhD in Management from McGill University, Canada. His research investigates organizational and institutional aspects of digital innovation and digital health transformation including health data protection and effective use of AI and ML in health care. His research is published in top outlets including the American Journal of Sociology, Journal of the Association for Information Systems, Information and Organization, Journal of Information Technology, Journal of the American Medical Informatics Association, and Journal of Business Research. They are cited in the EU policy documents and have received international research and impact awards. Saeed is on the Editorial Board of Information and Organization and International Journal of Medical Informatics, and co-chairs the AI in Business and Society track of International Conference on Information Systems (ICIS) 2023.