Yueqing Xuan

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EDUCATION

PhD in Computer Science, RMIT University   Aug 2022 – Now

- **Supervisors**: Assoc Prof Jeffrey Chan, Prof Mark Sanderson and Dr Kacper Sokol (ETH Zurich).
- **Scholarship**: Recipient of the *Australian Research Council (ARC) Centre of Excellence for Automated Decision-Making and Society (ADM+S)*.
- **Research Focus**: Human-Centred Explainable AI, Counterfactual Explanation; Fairness in Recommender Systems.

Master of Information Technology, University of Melbourne   Feb 2020 – Jul 2022

- **Specialisation**: Artificial Intelligence.
- **Supervisors**: Dr Lea Frermann and Dr Adi Tarigoppula.
- **WAM**: 84.50 – H1, First Class Honours.
- **Achievements**: Recognised on the *Dean's Honours List 2021* at the University of Melbourne for top 5% students. Awarded *Melbourne Graduate Scholarship 2022*.

Bachelor of Commerce, University of New South Wales   Jul 2015 – Jul 2018

- **Major**: Accounting and Information Systems.
- **WAM**: 74.50.

PUBLICATIONS

Conference and Journal Papers

[1] Yueqing Xuan, Kacper Sokol, Mark Sanderson, Jeffrey Chan. "Evaluating and Addressing Fairness Across User Groups in Negative Sampling for Recommender Systems". Conference on Information and Knowledge Management (CIKM), 2025, *https://doi.org/10.1145/3746252.37612632*.

[2] Yueqing Xuan, Kacper Sokol, Mark Sanderson, Jeffrey Chan. "Perfect Counterfactuals in Imperfect Worlds: Modelling Noisy Implementation of Actions in Sequential Algorithmic Recourse". Machine Learning, 114, no.8 (2025): 187, *https://link.springer.com/article/10.1007/s10994-025-06821-1*.

[3] Kacper Sokol*, Edward Small*, Yueqing Xuan*. "Navigating explanatory multiverse through counterfactual path geometry". Machine Learning, 114, no.6 (2025): 1-33, *https://link.springer.com/article/10.1007/s10994-025-06769-2*. *Equal contribution.

[4] Yueqing Xuan, Kacper Sokol, Mark Sanderson, Jeffrey Chan, "Leveraging Complementary AI Explanations to Mitigate Misunderstanding in XAI". 2025 IEEE Swiss Conference on Data Science (SDS), 2025, pp. 174-177, *https://doi.org/10.1109/SDS66131.2025.00034*.

[5] Yueqing Xuan, Edward Small, Kacper Sokol, Danula Hettiachchi, Mark Sanderson. "Comprehension Is a Double-Edged Sword: Over-Interpreting Unspecified Information in Intelligible Machine Learning Explanations". International Journal of Human-Computer Studies (IJHCS), 2024, 103376, ISSN 1071-5819, *https://doi.org/10.1016/j.ijhcs.2024.103376*.

Workshop Papers

[1] Yueqing Xuan*, Edward Small*, Danula Hettiachchi*, Kacper Sokol*. "Helpful, Misleading or Confusing: How Humans Perceive Fundamental Building Blocks of Artificial Intelligence Explanations". ACM CHI Workshop on Human-Centered Explainable AI (HCXAI). In: *arXiv preprint arXiv:2303.00934*. 2023.

[2] Kacper Sokol*, Edward Small*, Yueqing Xuan*. "Navigating Explanatory Multiverse Through Counterfactual Path Geometry". ICML (International Conference on Machine Learning) Workshop on Counterfactuals in Minds and Machines. In: *arXiv preprint arXiv:2306.02786*. 2023.

Thesis

[1] Yueqing Xuan. "Multi-modal Entity Linker". Master thesis. School of Engineering and Information Technology, University of Melbourne, 2021.

PROFESSIONAL SERVICE

Conference Reviewing

- SIGIR (2023), SIGIR (2025).

TEACHING

Tutor "COSC1285 Algorithm and Analysis"   s1, s2 2025

- 1st year M.Sc. course, School of Computing Technologies, RMIT University.

Tutor "COSC2123 Algorithm and Analysis"   s1, s2 2024

- 2rd year B.Sc. course, School of Computing Technologies, RMIT University.

WORK EXPERIENCE

Research Assistant, University of Melbourne, Melbourne   Nov 2019

- Research project: Humanoid robotic arm control through verbal commands (GitHub Link).
- Integrated the Porcupine wake word engine and IBM Watson speech recognition system into the robotic arm control framework for the anthropomorphic robotic limb. Interacted with the humanoid robot with real-time control through natural language commands.

IT Support and Business Analysis Intern, The Altius Group, Sydney   Mar 2019 – May 2019

- Effectively managed, configured and troubleshoot a range of IT-related systems.
- Responsibly implemented and administrated database documentation, policies and procedures.
- Performed application and hardware configuration deployment and troubleshooting.

GIS Data Processing Intern, Institute of Technical Physics, Shanghai   Nov 2016 – Feb 2017

- Worked in the Big Data team to analyse Geographic Information System (GIS) data by utilising the ContextCapture software.
- Designed and maintained database architecture, data structures, tables, dictionaries, and naming conventions to ensure the accuracy and completeness of data master files.