Danny Wang

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PhD candidate in machine learning at The University of Queensland, working on the reliability of models that meet the open world: out-of-distribution detection in graphs and text-rich networks, and controllable generation with discrete diffusion language models. My work has appeared at ICML, ICLR, EMNLP and KDD, including an ICLR spotlight in the top 5.1% of submissions.

EDUCATION

Doctor of Philosophy — Computer Science 01/2024 — 06/2027 (expected)
The University of Queensland, School of Electrical Engineering and Computer Science — Brisbane, Australia
Advisors: Dr Ruihong Qiu, Prof. Zi (Helen) Huang.

Bachelor of Computer Science / Master of Data Science 02/2020 — 11/2023
The University of Queensland, School of Electrical Engineering and Computer Science — Brisbane, Australia
Advisor: A/Prof. Tong (Rocky) Chen. GPA 6.83 / 7.0.
Class of 2023 Valedictorian; Dean's Award 2020, 2021, 2022, 2023.

PUBLICATIONS

INTERNATIONAL CONFERENCE ON MACHINE LEARNING (ICML) 2026 — ACCEPTED CORE A*
Wang, D., Qiu, R., and Huang, Z. (2026). *What Information Matters? Graph Out-of-Distribution Detection via Tri-Component Information Decomposition.*

UNDER REVIEW
Wang, D., Qiu, R., and Huang, Z. (2026). *When to Commit? Towards Variable-Size Self-Contained Blocks for Discrete Diffusion Language Models.*

EMPIRICAL METHODS IN NATURAL LANGUAGE PROCESSING (EMNLP) 2025 MAIN CONFERENCE CORE A*
Wang, D., Qiu, R., Bai, G., and Huang, Z. (2025). *Text Meets Topology: Rethinking Out-of-Distribution Detection in Text-Rich Networks.*

INTERNATIONAL CONFERENCE ON LEARNING REPRESENTATIONS (ICLR) 2025 SPOTLIGHT · TOP 5.1% CORE A*
Wang, D., Qiu, R., Bai, G., and Huang, Z. (2025). *GOLD: Graph Out-of-Distribution Detection via Implicit Adversarial Latent Generation.*

KNOWLEDGE DISCOVERY AND DATA MINING (KDD) 2024 CORE A*
Chen, T., **Wang, D.**, Liang, X., Risius, M., Demartini, G., and Yin, H. (2024). *Hate Speech Detection with Generalizable Target-aware Fairness.*

AUSTRALASIAN JOINT CONFERENCE ON ARTIFICIAL INTELLIGENCE 2023 Australasian B
Wang, D., Wainwright, R., Layton, H., and Bialkowski, A. (2023). *Beyond Model Accuracy: Identifying Hidden Underlying Issues in Chest X-ray Classification.*

RESEARCH EXPERIENCE

Research Assistant — Fairness of Online Extremism Detection 02/2023 — 01/2024

The University of Queensland — supervised by Dr Rocky Chen (EECS) and Dr Marten Risius (BEL)

Developed and implemented a bias-mitigation method to improve trust and fairness in extremism-detection models, continuing the summer internship project. The resulting paper was published at KDD 2024.

Research Assistant — Driver Drowsiness Analysis 07/2022 — 09/2022

The University of Queensland — supervised by Dr Ruihong Qiu

Wrangled and analysed heart-rate variability, EEG and ECG signals, then applied machine-learning and deep-learning methods to identify heart-rate peaks and their correlation with driver drowsiness.

Summer Research Intern — UQ AI Collaboratory 11/2022 — 02/2023

On the Fairness of Data-Driven Online Extremism Detection — Dr Rocky Tong Chen, Dr Marten Risius

Studied fairness of extremism-detection models across advantaged and disadvantaged online groups. Processed and analysed over 100 million Reddit messages, and used BERT and BiRNN language models to surface bias in existing detection methods.

Summer Research Intern — UQ AI Collaboratory 12/2021 — 04/2022

Explain my AI Model: Interpretable Deep Learning for Medical Imaging — Dr Alina Bialkowski

Assessed interpretability techniques for medical-imaging models: applied transfer learning with pre-trained convolutional networks to chest X-ray classification, and used dimensionality reduction, uncertainty measures and visualisation to probe model predictions.

TEACHING

Academic Teaching Assistant 07/2022 — present

The University of Queensland, Brisbane, Australia

Head TA for Advanced Techniques for High Dimensional Data (INFS4205) and for thesis projects with a cohort of over 30 masters students (DATA7901/3, REIT7842). Tutored the practical and tutorial components of Introduction to Data Science (DATA7001).

SERVICE — REVIEWING

2026	KDD, AAAI, ICLR, ICML GOLD REVIEWER · TOP 25%, ARR May
2025	ICLR, ICML, NeurIPS, ARR May, IJCAI, IEEE Transactions on Services Computing
2024	CIKM, IJCAI

AWARDS & HONOURS

2026	ICML Gold Reviewer, top 25% of reviewers
2025	ICLR Spotlight, top 5.1% of submissions
2023	Class of 2023 Valedictorian, The University of Queensland
2020—23	Dean's Award for Academic Excellence, four consecutive years