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Yunke Qu

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EDUCATION

University of Queensland Brisbane, Australia
PhD in Data Science Apr. 2022 - Mar. 2026 (exp.)
- Advisors: Prof. Hongzhi Yin and Dr. Tong Chen
- Research Keywords: Lightweight Recommender Systems, Multimodal Learning, Reinforcement Learning, Parameter-Efficient Finetuning, Model Compression

University of Queensland Brisbane, Australia
Bachelor of Information Technology (Honours) Feb. 2017 - June 2021
- GPA: 6.625/7, First Class Honours

EXPERIENCE

ByteDance (TikTok) Shanghai, China
Recommendation Algorithm Intern Sep. 2025 - Mar. 2026 (Exp.)
- Work to improve the coarse ranking stage of the recommender system at TikTok live e-commerce by aligning its output with fine ranking.

University of Queensland Brisbane, Australia
Research Assistant Nov. 2020 - Dec. 2021
- Applied BERT for misinformation detection, analysed the relationship between truth labels and confidence scores from ML models and crowd workers. Contributions published in ACM Journal of Data and Information Quality and 2021 Truth and Trust Online Conference.

PUBLICATIONS & PREPRINTS

Efficient Multimodal Streaming Recommendation via Expandable Side MoE [Paper] [Code] 2025
Yunke Qu, Liang Qu, Tong Chen, Quoc Viet Hung Nguyen, Hongzhi Yin
CIKM 2025 (CORE A, CCF B, acceptance rate 27%)
An efficient finetuning framework for foundation models (BERT and ViT) in multimodal streaming recommendation. It combines side tuning with expandable MoE modules to efficiently adapt to evolving text/image preferences while preserving long-term user interests.

Sparse Gradient Training for Recommendation Systems [Paper] 2025
Yunke Qu, Liang Qu, Tong Chen, Xiangyu Zhao, Jianxin Li, Hongzhi Yin
Preprint submitted to Data Science and Engineering (Q1, CAS Tier 1)
An embedding-pruning method based on sparse training that achieves sparse gradient and embeddings.

Scalable Dynamic Embedding Size Search for Streaming Recommendation [Paper] [Code] 2024
Yunke Qu, Liang Qu, Tong Chen, Xiangyu Zhao, Quoc Viet Hung Nguyen, Hongzhi Yin
CIKM 2024 (CORE A, CCF B, acceptance rate 23%)
A reinforcement learning-based method for dynamic embedding size search in streaming recommendation. It dynamically adjusts embedding sizes to user/item frequency, fits within a predefined parameter budget, and supports streaming updates without retraining.

Budgeted Embedding Table for Recommender Systems [Paper] [Code] 2024
Yunke Qu, Tong Chen, Quoc Viet Hung Nguyen, Hongzhi Yin
WSDM 2024 (CORE A, CCF B, acceptance rate 18%)
An embedding size search method for efficient recommendation under a predefined budget constraints.

Continuous Input Embedding Size Search for Recommender Systems [Paper] [Code] 2023
Yunke Qu, Tong Chen, Xiangyu Zhao, Lizhen Cui, Kai Zheng, Hongzhi Yin
SIGIR 2023 (CORE A*, CCF A, acceptance rate 20%)
A reinforcement learning method that achieves lightweight embeddings with mixed embedding sizes. It relaxes traditional discrete embedding size search to a continuous domain.

Combining Human and Machine Confidence in Truthfulness Assessment [Paper] 2022
Yunke Qu, Kevin Roitero, David La Barbera, Damiano Spina, Stefano Mizzaro, Gianluca Demartini
ACM Journal of Data and Information Quality
An analysis on the relationship of the confidence scores of BERT and crowd workers on misinformation detection and how they can be combined to improve the classification accuracy.

ACHIEVEMENTS

- SIGIR Student Travel Grants 2023
- Awarded a full scholarship (tuition waiver and living stipend) for PhD studies 2021
- Admitted into MSc in Social Data Science at The University of Oxford 2021
- EAIT Scholar (top 5% students by annual GPA) 2018 - 2021
- Dean's Commendation for Academic Excellence in 4 semesters (Semester GPA above 6.6/7) 2017 - 2021

TECHNICAL SKILLS

Frequently Used	Python, PyTorch, NumPy, Pandas, matplotlib, scikit-learn, Linux, LaTeX
Prior Experiences	Tensorflow, Java, MATLAB, SQL, C, Scala, Dart, PySpark
Web Skills	HTML, CSS, JavaScript, JQuery, PHP