Qunzhong WANG

Department of Information Engineering
The Chinese University of Hong Kong

Email: qunzhong@link.cuhk.edu.hk
Website: qunzhongwang.cc
Mobile: +852-53499378

Education

The Chinese University of Hong Kong — Hong Kong, China
Double Major in Mathematics and Information Engineering — Sep 2023 - Jul 2027 (expect)
Overall GPA: 3.927/4.000

University of Washington — Seattle, United States
Exchange Program in Computer Science and Engineering — Sep 2025 - Dec 2025
Overall GPA: 4.000/4.000

Selected Courses: Machine Learning, Deep Learning, Computer Architecture, Operating System, Distributed Systems, Database System, Real Analysis, Complex Analysis, Probability Theory, Stochastic Analysis

Research Interests

- **Principles of AI Systems backed by Math**: Understanding the mathematical principles behind model representation capacity, training dynamics, and generalization. Leveraging these principles to design better and more scalable architectures, optimizers, training methods.
- **Reinforcement Learning on Large Models**: Aligning Large Language Models (LLMs), Vision-Language Models (VLMs), and their derivative Agents with specific human preferences and demands, with techniques like Reinforcement Learning from Human Feedback (RLHF) and Reinforcement Learning with Verifiable Reward (RLVR).

Academic Experience

- **Department of Computer Science, Princeton University** — Princeton, United States
  Research Assistant, Advised by Prof. Zhuang Liu — *Sep 2025 - Apr 2026*
  - **Research Focus**: Boosting reasoning capacity of VLMs through Reinforcement Learning
- **The Alan Turing Institute, The United Kingdom** — Edinburgh, United Kingdom
  Visiting Scholar, Hosted by Prof. Sotirios Sabanis — *July 2025 - Aug 2025*
  - **Research Focus**: Convergence analysis of stochastic algorithms in optimizors
- **Database Research Group, The Chinsese University of Hong Kong** — Hong Kong, China
  Research Assistant, Advised by Prof. Hong Cheng — *May 2024 - Sep 2024*
  - **Research Focus**: Provided theoretical Proofs for a transfer learning approach, Prompting, in Graph Neural Networks.

Industry Experience

- **Robbyant, Ant Group** — Beijing, China
  Research Internship. Mentor: Dr. Qihang Zhang; Leader: Prof. Yinghao Xu — *Apr 2026 - Present*
  - **Research Focus**: World Models and Robotics
- **Kling AI, Kuaishou Technology** — Shenzhen, China
  Research Internship. Mentor: Mr. Jiajun Liang; Leader: Dr. Xintao Wang — *Dec 2024 - Sep 2025*
  - **Research Focus**: Post-Training of Video Generation Models and VLM-based Reward Models

Selected Publications[1]

1. **Vero: Open Thinking Recipes for Visual Reinforcement Learning**
   Gabriel Sarch†, Linrong Cai†, **Qunzhong Wang**, Haoyang Wu, Danqi Chen, Zhuang Liu‡
   Under review [Paper] [arXiv] [Code]
2. **VR-Thinker: Boosting Video Reward Models through Thinking-with-Image Reasoning**
   Qunzhong Wang*, Jie Liu*, Jiajun Liang†, Yuanxing Zhang, Yilei Jiang, Yaozhi Zheng, Xintao Wang, Xiangyu Yue, Jiaheng Liu‡
   International Conference on Machine Learning (ICML), 2026 [Paper] [arXiv] [Code]
3. **Does Graph Prompt Work? A Data Operation Perspective with Theoretical Analysis**
   Qunzhong Wang*, Xiangguo Sun*, Hong Cheng‡.
   International Conference on Machine Learning (ICML), 2025 [Paper] [arXiv] [Code]

[1] * for co-first author, † for project leader, ‡ for corresponding author.

Honors & Awards

- Talent Development Scholarship (HK$10,000 awarded by HK Government) 2025
- Professor Charles K. Kao Research Exchange Scholarships (HK$50,000 awarded by CUHK) 2025
- Dean's List, CUHK 2024, 2025
- Meritorious Winner, International Mathematical Contest in Modeling (Top 4%) 2024
- 11th in East Division, Simon Marais Mathematics Competition 2023
- Prof Omar Wing Mem Scholarship (HK$40,000 awarded by CUHK) 2023
- Soong Ching Ling Scholarship (¥400,000 awarded by Chinese Government) 2023
- Admission Scholarship (HK$50,000 awarded by CUHK) 2023
- **Gold Medal, China Mathematics Olympiad (National final)** 2022
- First Prize, China Physics Olympiad (Provincial) 2022
- First Prize, China Chemistry Olympiad (Provincial) 2022

Skills

- **Languages**: Mandarin (Native), English (Fluent, IELTS 7.5 [Speaking 7]), Cantonese (Intermediate)
- **Technical Skills**: High-Performance Frameworks (vLLM, TensorRL-LLM, FSDP, Ray); Programming Languages (CUDA, Python, C++, C, Go); and Other Tools (R, SQL, LaTeX, HTML, MATLAB)