Qianggong Zhang

Brisbane QLD, Australian Citizen
M: +61 411601708 ● E: q.zhang.au@gmail.com
Qianggong on LinkedIn
Qianggong on Github
Qianggong on Google Scholar

PROFESSIONAL PROFILE

Ph.D. in Computer Science with expertise in AI/ML, specializing in AI-driven interactive technologies and multi-modality machine learning for vision applications. Experience leading a startup, demonstrating business acumen and entrepreneurial drive. Skilled in managing Large Language Models (LLMs), with a focus on secure data handling and multi-agent architectures. Publications in tier 1 conferences & journals. Comprehensive knowledge of Computer Vision (CV). Full-stack development capabilities.

PROFESSIONAL SKILLS

AI/ML:	LLM, Prompt Engineering, Multi-agentic LLM, Computer Vision, 3D Vision, SLAM, SfM, Foundation Models (SAM, Clip, ClipSeg, etc.), PyTorch
Programming:	Python, C++, Golang, CUDA, MATLAB, JS/TS, Shell, SQL
Full-stack dev:	Django, Flask, MySQL, MongoDB, RESTful, Git, Docker, Agile, Scrum
Data Science:	Mathematical Statistics, Optimisation, Financial Data Processing & Analysis

EMPLOYMENT HISTORY

Postdoc Research Fellow

Commonwealth Scientific and Industrial Research Organisation (CSIRO) | June 2023 – Present

- Led the development of DataSage, a multi-agent LLM product designed to streamline scientific data analysis, integrating robust data security and privacy enforcement.
- Collaborated within a 4-person team to progress DataSage to the patent application stage. The product gained strong internal traction and was applied in diverse research areas, including human-robot interaction, seagrass coverage analysis, and smart building optimization.
- Demonstrated deep expertise in LLM applications by designing interactive AI frameworks that enhanced research workflows and reduced the learning curve for users interacting with scientific data.
- Implemented a multimodality machine learning pipeline for open vocabulary image labeling, leveraging foundation models on edge devices like Nvidia Orin.

Founder

Coin Master P2P Pty Ltd | June 2021 – June 2023

- Managed a team of 8 developers and business operators to build and operate a profitable cryptocurrency portfolio.
- Led strategies for spot trading, futures, and arbitrage, automating exchange interactions via APIs.
- Ensured compliance with cryptocurrency regulations and mitigated operational risks.
- Oversaw technical and business operations, demonstrating entrepreneurial acumen in driving growth.

Research Fellow

University of Queensland / Queensland University of Technology | August 2018 – June 2021

- Led the technical development of an AI-powered skin cancer diagnosis project using techniques in image processing, mole recognition, and 3D data analysis; the project was successfully commercialized.

- Managed a 4-person team, collaborating with supervisors to track milestones, and aligned technical efforts with business objectives through regular engagement with stakeholders.
- Designed the data pipeline and addressed key challenges by integrating state-of-the-art solutions, while providing technical leadership in prototype development, algorithm optimization, and mentoring Ph.D. students.
- Demonstrated expertise in AI/ML algorithms, 3D geometry processing, and data visualization to drive project outcomes.

Senior Software Engineer

Agricultural Bank of China | August 2007 – July 2012

- Maintained and enhanced back-end accounting systems, ensuring smooth daily operations.
- Developed new features based on business requirements and resolved production issues.
- Compiled accurate reports for senior management, ensuring data-driven insights were regularly available.
- Supported new employees by providing guidance on internal software and applications.
- Contributed to systems development projects with reliable code and optimized SQL queries for improved performance.

EDUCATION & QUALIFICATIONS

Ph.D. in Computer Science University of Adelaide, Australian Institute for Machine Learning (AIML) | 2018

Master in Computer Science Beijing University of Technology | 2007

Bachelor in Computer Science Qingdao University of Science and Technology | 2004

Chartered Financial Analyst (CFA) Level 3 CFA Institute | 2010

SELECTED PUBLICATIONS

[1] Dedeoglu V., **Zhang Q**., Li Y., Liu J., & Sethuvenkatraman S., (2024). BuildingSage: A safe and secure AI copilot for smart buildings. ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys 2024).

[2] **Zhang Q**., Gu Y., Mateusz M., Baktashmotlagh M., & Eriksson A., (2020). Implicitly Defined Layers in Neural Networks. https://arxiv.org/abs/2003.01822.

[3] **Zhang Q**., Chin T., & Le H. (2018). A fast resection-intersection method for the known rotation problem. IEEE Conference on Computer Vision and Pattern Recognition (CVPR).

[4] **Zhang Q**., Chin T., & Suter D, (2017). Quasiconvex plane sweep for triangulation with outliers. IEEE International Conference on Computer Vision (ICCV).

[5] **Zhang Q**., & Chin T., (2017). Coreset for Triangulation IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI).

PERSONAL ATTRIBUTES

- Reliable, self-motivated, and adaptable, with a disciplined and structured approach to work.
- Strong communication and interpersonal skills, effective in both team environments and independent tasks.
- Diligent and organized, consistently delivering high-quality results.