

MAH YING QI (LUCAS MAH)

AI Engineer & PhD Researcher • Generative AI, AI Agents, Machine Learning, Full-Stack Engineering

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EXPERIENCE

Calibrax AI

Mar 2026 – Present

AI Engineer

- Core engineer of the company's flagship AI agent platform, which lets businesses describe a process in plain conversation and have AI agents run it as a reliable, auditable cloud workflow, with model-agnostic routing that selects the best large language model (LLM) for each task by cost and capability.
- Built the automated pipeline that takes a new customer application from code creation to live cloud deployment with no manual setup, then used it to deliver three production finance apps as primary author: invoice scheduling, purchase-order matching, and revenue reconciliation.
- Designed and shipped a financial automation system end to end as sole engineer: Python data pipelines reconciling payment, sales, and bank records, an extensive automated test suite, and a web app for finance staff to review results, now running monthly in production at 93–100% documented accuracy.
- Co-manage the company's entire cloud infrastructure as code (AWS, GCP, Terraform): led a major cloud migration and reduced recurring costs through budget guardrails and continuous optimisation.

Monash University

Nov 2025 – Present

PhD Researcher

- Researching how self-driving cars can use large language models (LLMs) to decide what information to share with nearby vehicles, improving road safety while reducing network load.
- First-authored two research papers prepared for leading journals (Elsevier *Vehicular Communications*; IEEE *Transactions on Vehicular Technology*), including a method that missed zero collision risks across 84,000+ real-traffic scenarios while sending $3.8\times$ less data.
- Run large-scale driving simulations with compact AI models on the university's supercomputing cluster, scheduled and tracked by a self-built research-automation agent.
- Serve as a teaching assistant for undergraduate units, tutoring students and marking assessments.

Neuron & Beam Mobility

Sep 2024 – Feb 2026

Full-stack Software Engineer

- Developed and maintained the full-stack platforms of Neuron and Beam, the two largest micromobility operators in APAC, serving 1M+ monthly active users across 8 countries on 4 continents.
- Owned pricing, subscription, public developer API, and IoT vehicle features end to end, from design to production.
- Architected and built the systems integration behind the merger of the two companies, consolidating overlapping services into a single platform.
- Reduced GCP cloud costs by 40% by re-architecting services and rightsizing resources while the microservices and IoT platform continued to scale.
- Ran A/B tests on large-scale trip and user-behaviour data to optimise pricing, lifting average revenue per user (ARPU) by 5% and rider retention by 3%.

Huawei, CTRL CV, GlobeOss

AI Engineer & Software Engineer Internships

- Engineered a secure eKYC framework that leverages VLM-based analysis to perform real-time video liveness detection and automated identity document verification.
- Developed an automated urban monitoring system using fine-tuned computer vision models to identify and categorize infrastructure defects like potholes, overgrowth, and cracks from dashcam footage.
- Built and deployed interactive geospatial dashboards using CARTO and React.js for strategy planning.

EDUCATION

PhD in Artificial Intelligence, Monash University

2025 – 2028

- Awarded the GEMS scholarship with a full stipend and fee waiver, given to one student per cohort.
- Pursued full time in parallel with the full-time engineering role at Calibrax AI.

Bachelor of Computer Science (Honours), Monash University

CGPA: 3.9/4.0 2021 – 2025

- Awarded the 100% Graduate Research Pathway Scholarship and the Monash Higher Achiever Scholarship.

PROJECTS

Retail Pricing Analytics Dashboard

- Engineered a full-stack platform using FastAPI, LangGraph, and Next.js for competitor price monitoring.
- Visualized pricing trends via interactive dashboards to identify competitive gaps and maximize margins.
- Orchestrated an interactive AI assistant via OpenAI to provide data-driven pricing suggestions and insights.

SKILLS

Languages:	Python, TypeScript, SQL, Java, R, Go, Dart, Kotlin
AI & ML:	PyTorch, HuggingFace, LoRA fine-tuning, RAG, Claude Agent SDK, LangGraph, Langfuse
Cloud & DevOps:	AWS (EKS, RDS), GCP (GKE), Kubernetes, Terraform, Docker, GitHub Actions CI/CD, SLURM
Web & Data:	React, Next.js, Bun, Hono, FastAPI, PostgreSQL, Redis, SQLite, Kafka, MongoDB
Expertise:	Generative & Multimodal AI, Agentic Systems, Machine Learning, Distributed Systems, DevOps