

Haokai Tan

Software, Data & Automation

Sydney, NSW, Australia | tan@haokaiiii.com
portfolio.haokaiiii.com | github.com/Haokaiiii

Profile

Software engineer with a Master of Data Science and Decisions from UNSW and experience building internal applications, data integrations and workflow automation. Turns an understanding of business operations into practical tools, reporting and user support. Brings experience across software delivery, survey-data workflows, staff training and published machine-learning research.

Core Capabilities

Software and integration: full-stack applications, REST APIs, webhooks and scheduled workflows.
Data and analysis: operational reporting, reconciliation, data-quality checks and AI-assisted insights.
Practical delivery: business-process understanding, stakeholder feedback, SOPs and user support.

Professional Experience

Full-Stack Software Engineer

Oct 2025 - Sep 2026

KOAS | *Overseas team; remote from Sydney*

Full-time from early 2026; employment ended 1 September 2026.

- Initiated and developed internal applications after identifying opportunities to improve daily operations. Brought information from multiple platforms into shared dashboards and department-specific workflows using Python, SQL, FastAPI and TypeScript.
- Connected end-of-day reporting and external services through API integrations and scheduled synchronisation, reducing repeated manual recording and switching between applications.
- Developed creator-level sales and engagement analysis with AI-assisted coaching reports grounded in company SOPs and sales playbooks. Kept calculated metrics separate from AI interpretation and made data gaps visible for review.
- Implemented data-quality checks covering duplicate records, identity and assignment consistency, and missing information; supported investigations through reviewable operational detail.
- Gathered feedback from staff and the Head of Sales to refine tools used across departments. Contributed to knowledge-assistant and training-support workflows with source references, output validation and human review.

IT & Automation Support (previously Detail Drafter)

Ongoing, casual

Innovative Surveying Associates (ISA Surveyors) | Sydney, NSW

- Built WorkflowMax-to-Dropbox job-folder automation and a timesheet/GPS comparison tool that produced discrepancy reports for human review.
- Worked across scan-data processing, point-cloud processing, 3D modelling and finished drawings using Leica Cyclone, Leica REGISTER 360, Topcon MAGNET and AutoCAD.
- Trained new drafters and wrote SOPs covering most routine drafting and 3D-processing procedures, providing reusable guidance for onboarding and daily work.
- Served as the primary contact for computer hardware and software problems, and contributed to the design of the company's previous website.

Education

Master of Data Science and Decisions

2024 - 2026

University of New South Wales (UNSW) | Completed early 2026.

Bachelor of Science

2019 - 2024

University of Sydney | Major in Data Science; Minor in Mathematics.

Research and Selected Projects

Human Mobility Prediction | ACM SIGSPATIAL 2025

Second author of *Classical Feature Embeddings Help in BERT-Based Human Mobility Prediction*. Contributed to shared research ideation for a study combining spatial and temporal features with BERT-based mobility modelling.

Publication: doi.org/10.1145/3748636.3763212

GL_Fusion | Independent research implementation

Developed a separate mobility-forecasting research project following collaborative research discussions, exploring graph attention and language-model fusion with PyTorch and LoRA. Used Australian high-performance computing resources accessed through UNSW to experiment with distributed training and investigate memory, runtime and model-quality constraints.

Code: github.com/Haokaiiii/GL_Fusion

Discord Activity and TTS Bot | Personal project

Built a Python bot that turns voice-channel events into activity rankings and co-presence heatmaps, with scheduled reports and MongoDB persistence. Added queued text-to-speech notifications, cached audio, local backups and connection-recovery handling.

Code: github.com/Haokaiiii/Discord_TTS_Bot

Technical Skills

Programming: Python, SQL, JavaScript, TypeScript and Node.js.

Applications and APIs: FastAPI, React, Next.js, Express, REST integrations and webhooks.

Data: pandas, NumPy, Matplotlib, Seaborn, SQLite, MongoDB and Google Sheets API.

AI and research: AI-assisted reporting, knowledge retrieval, structured outputs, PyTorch, Hugging Face Transformers, LoRA and distributed-training workflows.

Delivery: Git, Docker, Cloudflare Pages, automated tests and browser verification.

Current development assistants: Codex and Claude Code.

Additional Information

Languages: English (fluent); Mandarin (native).

Professional development: Introduction to SQL microskill, TAFE NSW Institute of Applied Technology Digital.