

Master of IT international student at the University of Melbourne. Self-motivated software engineer specialising in full-stack web development with **GCP Associate Cloud Engineer certification** and expertise in AI/ML.

EDUCATION

- The University of Melbourne** Melbourne, Australia
Master of Information Technology in Artificial Intelligence; WAM: 81/100 Mar. 2024 – Jun. 2025
- The University of Melbourne** Melbourne, Australia
Bachelor of Science in Data Science; WAM: 74/100 Mar. 2021 – Dec. 2023

EXPERIENCE

- The Florey** Melbourne, Australia
NLP Engineer Intern Nov 2024 - Mar 2025
 - NLP for Biomedical Systematic Reviews:** Designed and optimized natural language processing (NLP) pipelines leveraging encoder-only models (BERT-based) and large language models (LLama, DeepSeek, Qwen) tailored for biomedical systematic reviews and literature recommendations. Successfully achieved high-precision performance in document classification tasks, matching state-of-the-art benchmarks. **Publications forthcoming.**
 - Large Language Model Deployment with HPC:** Deployed sophisticated language models, including Llama3.3-70B and Mistral-7B, utilizing HuggingFace frameworks integrated with High-Performance Computing (HPC) resources. Processed over 15,000 medical publications, enabling rapid and efficient literature analysis at scale.
- Melbourne Space Program** Melbourne, Australia
Software Engineer Mar 2023 - Jun 2024
 - Humanoid Robotics Sensing Team Lead:** Led a specialized team to design, develop, and optimize advanced camera systems for a humanoid robotic bartender. Innovated techniques for precise cup detection and developed state-of-the-art liquid segmentation algorithms, significantly enhancing robotic perception capabilities.
 - Neural Network Development:** Collected an on-site liquid-pouring dataset and replicated a U-Net model for liquid segmentation, ensuring high accuracy in pouring tasks. Integrated YOLOv4 object detection with an OAK-D camera for robust bottle classification.
 - ROS System Architecture and Development:** Managed and refined the Robot Operating System (ROS) codebase, architecting efficient messaging systems to coordinate diverse nodes, including chatbot interfaces, camera sensors, robotic arms, and end-effectors, ensuring seamless system integration and performance.

PROJECTS

- Personal Portfolio Website** me.henrikhao.com
GitHub Repository
 - Technology Stack:** Built using **React** and **Tailwind CSS**; deployed to **Google Cloud Storage** with CI/CD pipelines via **GitHub Actions** and infrastructure managed using **Terraform**.
- Bushfire Analysis Application**
GitHub Repository
 - Cloud-based Analysis:** Analyzed the relationship between bushfires and respiratory diseases using Melbourne Research Cloud; implemented with **Kubernetes** for container orchestration, **Elasticsearch** for data storage, **Fission** for serverless API and message queue management, and **Docker** for containerization.

TECHNICAL SKILLS

- Programming Languages:** Python | Java | C | SQL | Haskell | JavaScript | HTML | CSS
- Frameworks and Tools:** React.js | Tailwind CSS | Google Cloud Platform | Terraform | Pytorch | Hugging Face | Kubernetes | Git | Docker | ElasticSearch | GitHub Actions
- Google Certified Associate Cloud Engineer (2025)**