

# BRENDAN KOH

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## EDUCATION

**National University of Singapore**  
**Bachelor of Computing in Computer Science**

**Aug 2022 - Jun 2026**

- Minor in Economics
- GPA: 4.86/5.0
- Dean's List: AY2023/2024 Semester 2 (Jun 2024), AY2024/2025 Semester 2 (Jun 2025)
- Outstanding Performance Awards: CS2030S Programming Methodology II (May 2023), CS2100 Computer Organisation (Jan 2024), IS2218 Digital Platforms for Business (Jun 2025)
- Relevant coursework: Programming Methodology, Data Structures and Algorithms, Computer Organisation, Database Systems, Software Engineering, AI and Machine Learning, Software Engineering Principles and Patterns, Parallel Computing

## INTERNSHIP & WORK EXPERIENCE

**Software Engineer/Developer Intern, Bitopia Technology Pte Ltd, Singapore**

**May 2025 - Aug 2025**

- Built a reusable AI SDK microservice with Spring Boot and Vue with API and GUI for testing multiple large language models (LLMs) (OpenAI, Google Gemini, Anthropic Claude) with cost and token information, allowing for informed cost-benefit analysis of different AI models.
- Designed and architected a reusable, reliable, and fault-tolerant RabbitMQ architecture utilising retry/dead-letter queues with Prometheus/Grafana observability, ensuring message persistence in production and preventing loss in business revenue across 5+ applications.
- Developed an asynchronous AI image processing workflow for an enterprise application using the RabbitMQ reliability architecture, speeding up image processing by 4 times while ensuring fault tolerance and traceability.
- Engineered and managed 3 containerised microservices (RabbitMQ, Grafana, Prometheus) for the reliability architecture in the enterprise application, leveraging Docker Compose for easy deployment and scaling.
- Implemented a document processing feature using Tesseract OCR and LLMs for structured data extraction within private sector enterprise project, saving processing time by 90%.
- Architected systems to integrate Python ML APIs with Spring Boot and business intelligence tools, while conducting ML research for enterprise and public sector use cases (regression, classification, time-series, clustering).
- Authored technical documentation (JavaDoc, READMEs, architecture diagrams) to address critical gaps in system knowledge, supporting long-term maintainability and knowledge transfer within the team while reducing handover time by 60%.

**Software Development Intern, Oceanus Group Limited, Singapore**

**Jul 2024 - Aug 2024**

- Planned, designed and developed a full-stack AI-powered web application prototype in React and Django frameworks from the ground up used by traders within the company.
- Drafted a Business Requirements Document (BRD) from scratch for the web application, capturing project scope, deliverables, workflows for traders and long-term business costs, aligning technical design with business impact.
- Partnered with traders through multiple product demonstrations throughout the 5-week development process, gathering feedback on usability and requirements to refine the product roadmap.

## SKILLS

- Languages: English (Fluent), Chinese (Conversational, HSK Level 5)
- Programming Languages: Python, C++, C#, Java, SQL, HTML/CSS/JavaScript
- Web Frameworks and Libraries: React, Vue, Tailwind, Spring Boot, Express.js, Django, FastAPI
- Backend Frameworks: RabbitMQ, Redis, PostgreSQL, MySQL, WebSocket, Prometheus, Grafana
- AI/ML Frameworks: OpenAI/Gemini/Anthropic APIs, PyTorch, Scikit-learn, OpenCV
- AI/ML Skills: LLM integration, Prompt engineering, OCR (Tesseract), enterprise AI pipelines

## ACHIEVEMENTS

- Achieved Silver Medal for National Olympiad in Informatics (NOI) 2019
- Attained Apollo 11 Achievement Level for Orbital Programme (Jul 2023)

## OTHER EXPERIENCE

**Executive Committee Member, Yishun Reading Odyssey, Singapore**

**Jun 2023 - Jun 2024**

- Partnered with SHINE Children and Youth Services to facilitate weekly reading lessons for 20 children.
- Collaborated with other executive committee members to plan games and programmes for several significant events and outings for 20 children.
- Handled logistics for group reading component of project by selecting and borrowing suitable books every 2 weeks.