Brandon Ng Joon Hoe

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EDUCATION

Singapore University of Technology and Design   **Expected Graduation: May 2026**
- Bachelor of Engineering (Computer Science and Design), Honours - Third Year Student
- GPA 4.5/5.0, Honours w/ Highest Distinction, ASEAN Undergraduate Scholarship, Honours List 22/23
- Teaching Assistant for Algorithms, Designing Energy Systems, and Design Thinking and Innovation

University of California, Davis - Exchange Program   **Jan 2025 - Present**
- Coursework: Computer Networks, Programming Languages, Compilers, and Human-Computer Interaction

WORK EXPERIENCE

Azendian Solutions   **Aug 2024 – Dec 2024**
Full Stack Developer Intern   *Singapore*
- Developed responsive and interactive UIs for P&ID websites with ReactJS and designed REST APIs for a Keppel DHCS project using NodeJS and Express
- Automated sensor data migration with Python script, reducing migration time from 1 hour to 10 minutes per site improving efficiency and accuracy

PROJECTS & HACKATHONS

[EShopMicroservices](#)   **Oct 2024 – Dec 2024**
- Developed a backend microservices e-commerce platform using .NET 8, RabbitMQ, Redis caching, and Yarp API Gateway, containerized using Docker and Docker Compose
- Applied Domain-Driven Design (DDD), Command Query Responsibility Segregation (CQRS), and gRPC for scalable architecture

GIC CODETOIMPACT Hackathon   **Sept 2024**
- Led a team of five to build a full-stack MERN application in 24 hours for real-time data updates and concurrent processing using WebSocket and atomic operations
- Developed both backend and frontend, implementing REST APIs, JWT authentication and authorization.

[HR Training Management Web App](#)   **May 2024 – Aug 2024**
50.003 Elements of Software Construction, SUTD
- Led development of an HR training app using React (TypeScript), Node.js, Express.js, and MySQL
- Achieved 85% test coverage with 133 unit, integration, and end-to-end tests using Jest, Supertest, and Cypress to ensure system reliability and functionality

[E-commerce Bulk Buy Android Java App](#)   **Jan 2024 – Apr 2024**
50.001 Introduction to Information Systems & Programming, SUTD
- Developed a full-stack Android application using Java to streamline and optimise bulk-purchase process
- Applied Java and Object-Oriented Programming concepts and principles to develop app architecture
- Built an IoT smart locker with Raspberry Pi and Python, integrating QR code scanning from app for access

[Electronic Game Utilising Custom CPU on FPGA](#)   **Jan 2024 – Apr 2024**
50.002 Computation Structures, SUTD
- Developed a digital version of Loopin' Louie using Beta CPU and assembly, a RISC-based CPU by MIT
- Implemented the custom CPU and its Instruction Set Architecture on a Xilinx Artix 7 FPGA using Lucid.
- Managed I/O unit connections to the FPGA, handling button presses and routing output to external LEDs and 7-segment displays using register-mapped I/O

SKILLS

- Programming Skills: Python, Javascript and Typescript (React, Node.js, Next.js), Java, Go, C, C# (.NET) MySQL, PostgreSQL, MongoDB, Docker, AWS, GitHub
- Technical Skills: Machine Learning, Assembly, FPGA, Electronics, Fusion360, Adobe Creative Suite
- Fluent in English and Malay, basic in Mandarin