Bryan Ng Zi Hao

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EDUCATION

National University of Singapore (NUS) — Singapore
Bachelor of Computing (Honours) in Computer Science — *Aug 2021 – May 2025*
- Final Year Computer Science Undergraduate with a focus on Software Engineering and AI/ML.
- Worked on full stack development, graduating in May 2025.

SKILLS

Programming Languages: C | Java | Javascript | Typescript | Python | SQL | Bash | HTML | CSS
Frameworks: React | React Native | Vue.js | Node.js | Express.js | Springboot
DevOps: Docker | Kubernetes | Heroku | Netlify | Git | Github | Google Cloud Platform
Databases: MongoDB | Firestore | PostgreSQL | Microsoft SQL Server
Machine Learning: Scikit-Learn | Numpy | Pandas

WORK EXPERIENCE

ST Engineering — May 2024 – Aug 2024
Software Engineer Intern, Application Modernization — *Singapore*
- Developed a **micro front-end** sense-making web application utilizing **Vite Module Federation, Vue.js & Pinia** for a multi-tenant environment.
- Engineered robust **RESTful APIs using Springboot** to facilitate communication between **microservices**.
- Deployed an internal documentation tool using **Docker & Kubernetes**, enhancing operational efficiency by 30%.

Millipede — May 2023 – Aug 2023
Software Engineer Intern — *Singapore*
- Designed and implemented a **dynamic report generation tool** with customizable templates driven by user inputs, using **Node.js, PDFKit and React**, reducing manual **configuration time by 60%**.
- Developed Millipede's **mobile application using React Native** and **admin portal using React**, ensuring **alignment with Figma** prototype designs for enhanced user experiences.
- Engineered and optimized **RESTful APIs and back-end services using Node.js, Express.js, and TSOA** for both projects in sprints, achieving substantial performance improvements.

Eunoia — Dec 2020 – Jun 2021
Product Intern — *Singapore*
- Designed a **Food & Beverage (F&B) Point-of-Sale (POS) system using Figma**, creating **intuitive and user-friendly interfaces** that streamlined transaction processes and improved overall user experience.
- Performed **quality assurance** for features by **developing test cases based** on product requirements.

PROJECTS

Automated Testing Engine — Jan 2024 – Apr 2024
- Designed and implemented an **automated testing engine** for the NUS Intelligent Tutoring System, using **metamorphic testing** techniques with **Python**.
- Discovered over **20 bugs with a 100% accuracy rate**, significantly improving the system's reliability.

Fitness Tracker — Nov 2023 – Dec 2023
- Mobile Application to keep track of workouts using **React Native, Node.js, Express.js and Firebase**.

ProfNUS — Aug 2022 – Dec 2022
- Desktop application built using **JavaFX and tested with JUnit** for professors to manage classes.

Study.io — May 2022 – Aug 2022
- Built an all-in-one productivity website for students using **MongoDB, Express.js, React, Node.js** with **JWT authentication** for **NUS Orbital Project**.
- Developed a **telegram bot using Python** to display students' schedules and send reminders.
- Attained the **highest level of achievement, Artemis.**