

YIP Jun Kai

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EXPERIENCE

Kipo AI

Jun 2025 — Present

Software Engineering Intern

San Francisco

- Rewrote the authentication and session system end-to-end to unblock OAuth and enterprise rollout, guarded by cross-browser end-to-end tests.
- Scaled the AI agent from stealth to reliable use by ~1,000 users on a 2M+ component index, introducing a durable workflow engine and moving chat state onto Redis to eliminate the race conditions that were dropping live responses.
- Led an architectural split that decoupled the chat and search subsystems, and hardened the deploy pipeline with reproducible builds, faster caching, and end-to-end test coverage.

OceanFront Hardware

May 2023 — Present

Freelance Developer

- Architected and deployed a full-stack B2B e-commerce platform using Vue.js and Strapi, supporting a catalogue of 800 active SKUs, enabling the client to digitise sales and scale catalogue operations.
- Led migration to Next.js with SSR, improving Core Web Vitals and driving top-tier Google rankings, increasing organic discoverability against competitors.
- Optimised product discoverability by implementing Meilisearch, reducing search query latency by 97% (from 700ms to 20ms) and enabling instant, typo-tolerant filtering for the B2B catalogue.

DSBJ

Jan 2024 — Jun 2024

Application & Data Developer Intern

Singapore

- Built a model visualisation platform with LLM-based diagnostics, enabling non-technical stakeholders to interpret complex mathematical models via natural language.
- Centralised and deployed a Single Sign-On (SSO) framework using NestJS, unifying authentication across 6 internal applications to enhance organisational security.

Gigworks (Works Pte. Ltd.)

Feb 2021 — Jun 2021

Mobile Application and Web Application Developer Intern

Singapore

- Owned development across Flutter (mobile) and Angular (web) on a revenue-generating e-commerce platform, contributing 80% of the production codebase and reducing user-reported defects by 90%, improving checkout reliability.
- Accelerated time-to-market by helping close a 6-month delivery gap with the design team.

Civil Defence Academy

Jan 2020 — Feb 2021

Mobile Application Developer

Singapore

- Pioneered a mission-critical attendance system during National Service using Flutter and Firebase, that digitised status tracking for 1,000+ personnel across the military base.

RESEARCH

Quantifying Uncertainty in Physics-Informed Neural Networks (FYP/AI4X 2025)

Aug 2024 — Jul 2025

- Developed a novel PINN-DER approach to quantify aleatoric and epistemic uncertainties, enhancing the robustness of Physics-Informed Neural Networks.
- Engineered a production-grade framework integrating PINNs with function + data flow Kedro pipelines to manage complex function and data flows for digital twin applications.

EDUCATION

Nanyang Technological University (NTU)

Singapore

Bachelor of Engineering (Honours), Computer Engineering

Aug 2021 — Jan 2026

- Minor in Business
- Elective Focus: Artificial Intelligence & Security

SKILLS

- **Spoken Languages:** English, Chinese
- **Technologies:** TypeScript, Python, Rust | Next.js, NestJS, FastAPI | PostgreSQL, MongoDB | AWS, Docker | LLM APIs