

Lee Juin

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EDUCATION

Nanyang Technological University, Singapore (NTU)

Aug 2021 – Dec 2024

Bachelor of Computing in Computer Science, Minor in Business

- Honours (Highest Distinction)
- CGPA: 4.76/5.00 (Recipient of Dean's List)

WORK EXPERIENCE

Proxtera

Jan 2024 – Apr 2024

Software Engineer Intern

- Created a Selenium web scraper deployed on AWS EC2 to scrap e-commerce product listing data, leveraging MapReduce framework with Python's multiprocessing library to accelerate the scraping process by 40%.
- Tasked with developing a serverless function on AWS Lambda that transforms Ghana GPS information into a format usable by other downstream applications.
- Developed a PDF generator microservice in JavaScript that dynamically generates product orders, quotation forms, and purchase orders based on user input details.
- Built an email template generator that transforms inputs from Google Sheets into email templates in HTML, providing immediate visualization of the email layout for the business development team.

Temasek Laboratories @ NTU, Singapore

Sep 2023 – Dec 2023

Frontend Software Engineer Intern

- Developed the frontend dashboard for NLPHub using React and Material-UI, enabling administrators to register and manage NLP services while also allowing user access to these services.
- Utilized Chart.js to build interactive charts that highlight key platform metrics, including historical query data, top users based on request frequency, and the most utilized services, offering a comprehensive visualization of the platform's dynamics.
- Constructed a React Redux store for comprehensive state management and implemented optimized API calls using custom React hooks, resulting in streamlined data flow, enhanced performance, and improve code readability within the application.
- Created Artillery load testing scripts and conducting ad-hoc testing via Postman to verify the system's capability to sustain a load of up to 3000 concurrent users, ensuring robust performance and scalability of the application.

Temasek Laboratories @ NTU, Singapore

May 2023 – Aug 2023

Backend Software Engineer Intern

- Developed and maintained NLPHub, a centralized gateway for deploying text, video, and audio-based NLP models, using TypeScript Nest.js as backend framework and MongoDB as database.
- Established a streamlined CI/CD pipeline on GitHub Actions using separate workflow files to compartmentalize testing, building, and deployment processes, enhancing readability, and simplifying maintenance within the development cycle.
- Implemented Redis caching strategy resulting in a significant enhancement of system performance, reducing response times by 45%, optimizing resource utilization, and improving overall system responsiveness.
- Adopted Test Driven Development (TDD) practice and wrote unit tests using Jest that achieved a 90% test coverage.
- Containerized the system using Docker and utilized Docker Hub for image registry and version control.

SKILLS

Languages: English, Mandarin, Malay

Programming Languages: JavaScript, TypeScript, Java, Python, C, C++

Databases: MongoDB, PostgreSQL, Microsoft SQL, Redis

Backend: Node.js, Express.js, Nest.js, Django, Flask, Nginx

Frontend: React, Material-UI, HTML, CSS

Cloud Platforms: AWS, Microsoft Azure, Supabase

DevOps Tools: GitHub Actions, Docker

AI / ML Libraries: Scikit-learn, OpenCV, pandas

Additional Tools: Linux (Ubuntu), Git, Artillery, Swagger, Jupyter, Jira, Confluence

PROJECTS

QuickMafs: LLM-integrated Embedded System Code Generator

Jan 2024 – Jan 2024

- Co-created QuickMafs, a LLM-integrated code generator translating convex optimization math expressions into embedded system code, using React as frontend and Express.js as backend framework.
- Implemented cross-language support for Java, Python, and Javascript, facilitating the direct conversion of mathematical expressions in these languages into optimized embedded system code in C and ARM assembly.
- Utilized Microsoft's TrOCR for direct translation from hand-written math expression.

Final Year Project: Speaker Diarization Web App*Dec 2023 – Present*

- Developed the backend of a web app that partitions an audio stream into channels according to the identity of speakers, using Typescript Nest.js as backend and MongoDB as database.
- Utilized ffmpeg for audio conversion to mp3 format, speeding up frontend audio playback by up to 75%.
- Worked closely with frontend developers on revision of technical requirements and integration tests using SwaggerUI.

FindR: E-commerce Price Comparison Web App*Aug 2022 – Nov 2022*

- Managed a team of 5 developers to deliver a full-stack web application using Django, React and PostgreSQL where users can search, filter, and compare prices of items sold on e-commerce platforms.
- Utilized Selenium for web scraping across diverse e-commerce platforms, extracting product data to create essential mock datasets for demonstration purposes.
- Deployed the web app using Azure App Service, ensuring scalability and optimal performance.
- Documented the backend API specifications using Postman to provide clear and comprehensive documentation for developers, facilitating easy integration and future development efforts.