

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: 4.78/5.00 (Recipient of Dean's List)

WORK EXPERIENCE

OCBC Bank

May 2024 – Aug 2024

Software Engineer Intern

- Developed an MVP showcasing OCBC Bank's history in VR with 3D artifact models in Apple Vision Pro using Swift.
- Led backend development of a virtual avatar banking project using Python Flask, integrating OpenAI GPT API for interactive banking operations.
- Created mock microservices in Spring Boot to integrate the Flask backend into the existing Spring microservices ecosystem and facilitated communication between Flask and Spring microservices via RabbitMQ.
- Handled Jira tickets for the React web development team, addressing small features and bug fixes as part of BAU activities.

Proxtera

Jan 2024 – Apr 2024

Software Engineer Intern

- Created a Selenium web scraper on AWS EC2, accelerating the scraping process by 40% using Python's multiprocessing library and MapReduce.
- Developed a serverless function on AWS Lambda to transform Ghana GPS information for downstream applications.
- Built a PDF generator microservice in Express.js for dynamic document generation (orders, quotations, POs).
- Developed an HTML email template generator from Google Sheets inputs for immediate layout visualization.

Temasek Laboratories @ NTU, Singapore

Sep 2023 – Dec 2023

Frontend Software Engineer Intern

- Developed NLPHub's frontend dashboard using React and Material-UI for service registration and user access.
- Created interactive charts with Chart.js to visualize platform metrics, improving user insights.
- Implemented a React Redux store and custom hooks for optimized API calls, enhancing performance.
- Conducted load testing with Artillery and Postman, ensuring the system's robustness for up to 3000 concurrent users.

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 and MongoDB 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++, Swift

Databases: MongoDB, PostgreSQL, Microsoft SQL, Redis

Backend: Node.js, Express.js, Nest.js, Django, Flask, Spring Boot, Nginx, RabbitMQ

Frontend: React, Material-UI, HTML, CSS, SwiftUI (VisionOS)

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

JobWise: Job Application Tracker

Feb 2024 – Apr 2024

- Co-developed JobWise, a full-stack job application tracking system that auto-tracks job application on LinkedIn and provides job-specific resume analysis, feedback and scoring.
- Implemented backend using Spring Boot and PostgreSQL database and frontend using React.js.
- Improved system scalability by utilizing Nginx as load balancer to proxy requests to backend servers deployed on Azure VM.
- Engineered prompts for Google's Gemini GPT to ensure accurate and specific resume feedback.

QuickMafs: LLM-integrated Embedded System Code Generator

Jan 2024 – Jan 2024

- Co-created QuickMafs, an 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 database.
- Utilized ffmpeg framework 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.