LEE Juin

Email: juin.lee@outlook.com | Phone: +65 8934 0061 | LinkedIn | GitHub | Website | Singapore

EDUCATION

Nanyang Technological University, Singapore (NTU) *Aug 2021 – Dec 2024*
Bachelor of Engineering in Computer Science, Minor in Business

- Honours (Highest Distinction); CGPA: 4.76/5.00
- Dean's List for Academic Year 2022 – 2023

WORK EXPERIENCE

Temasek Laboratories @ NTU, Singapore *Sep 2023 – Dec 2023*
Frontend Software Engineer Intern

- Tasked with developing the NLPHub frontend dashboard using React and Material-UI to facilitate registration and management of NLP services by administrators, ensuring streamlined accessibility for users.
- 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.

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*

- Tasked with developing the backend system of a Speaker Diarization web app that assists users to partition an audio stream into channels according to the identity of speakers, using Typescript Nest.js as backend and MongoDB as database.
- Worked closely with frontend developers on revision of technical requirements and integration tests using SwaggerUI.
- Built a CI/CD pipeline using GitHub Actions, performing automated testing and deployment to Azure VM.

NTU Heritage Club Booking System *Aug 2023 – Oct 2023*

- Developed a web application for NTU Heritage Club using React and Material-UI, enhancing accessibility and streamlining inventory and venue bookings.
- Implemented serverless architecture via Supabase edge functions and utilized PostgreSQL for persistent data storage.

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.

EXTRA-CURRICULAR EXPERIENCES

NTU Investment Interactive Club   *Sep 2023 – Present*
Web Developer

- Tasked with the development and maintenance of the club's website using WordPress, HTML, CSS, and JavaScript to ensure an engaging and user-friendly online platform.
- Collaborate with cross-functional teams to gather requirements and deploy updates, ensuring seamless operation and accessibility of the club's online presence.

NTU Heritage Club – Heritage Week 2023   *Oct 2022 – May 2023*
Chairperson

- Organized a successful 2-day flagship event for promoting awareness on Singapore's diverse cultures, drawing in 500 attendees through strategic planning and seamless collaboration efforts.
- Supervised event planning by setting goals and providing support and guidance to committee members.
- Directed a 15-member committee, overseeing sponsorship acquisition, budget allocation, and collaboration with student clubs.

Freshmen Orientation Camp 2023   *Aug 2022 – Aug 2023*
Vice President

- Organized a 5-day orientation camp aimed at crafting an immersive introduction to university life for incoming freshmen, drawing participation from over 200 attendees.
- Supervised and reviewed event budget planning, ensuring effective allocation and resource management.
- Oversaw publicity initiatives, contributing to successful event promotion and participant engagement.
- Led the programs division through the entire event lifecycle, delegating responsibilities, ensuring seamless coordination, and providing continuous support, culminating in a highly successful and memorable orientation camp for all attendees.

HACKATHONS

ESCENDO 2023 | Finalist | [GitHub Link](#)

- Collaboratively designed, developed, and presented ReadyBex, an RFID-driven automated system, to a panel of Micron experts. The system features a web app providing passengers with real-time notifications on the status of baggage arrivals.
- Implemented with Arduino, Django, React, Streamlit Cloud, Azure App Service.

MLDA@EEE Deep Learning Week Hackathon 2022 | Semi-finalist | [Devpost Link](#)

- Spearheaded and developed an AI-powered application that enhances the learning experience of students by tracking and analyze student engagement in real-time, featuring a high-level chart representation of student engagement levels over time.
- Implemented with Django, Chart.js, React.js, Azure App Service.

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: Microsoft Azure, Supabase
DevOps Tools: GitHub Actions, Docker
AI / ML Libraries: Scikit-learn, OpenCV, pandas
Additional Tools: Linux (Ubuntu), Git, Visual Studio, Visual Studio Code, Artillery, Swagger, Jupyter