JUSTIN CHEAH YUN FEI

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EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE (NUS) Aug 2022 - Present
Double Degree in Computer Science (4.42/5.00) and Business Administration (4.63/5.00), ASEAN Undergraduate Scholar

HWA CHONG INSTITUTION Jan 2016 - Dec 2021
GCE A-Level 90/90RP, Outstanding Student Award, Hwa Chong Diploma with Distinction

WORK EXPERIENCE

NUS ENTERPRISE Aug 2023 - Present
Software Engineer Intern
- Partner with Master Engineers and fellow interns to build Minimum Viable Products for NUS backed startups. Currently building a web application for Comcrop, Singapore's first and only rooftop farming startup using Nextjs, Reactjs, Django, MongoDB.
- Implement features iteratively with AGILE methodologies based on stakeholder requirements, while ensuring robustness through Jest-based testing.
- Design and architected systems from scratch based on technical requirements and user stories, set up pipelines for continuous integration to help streamline testing processes.

CODOMO PTE LTD May 2023 - Aug 2023
AI and Software Engineer (Fullstack)
- Spearheaded Rolljak's AI activity generator from scratch for 7 features with 4 different upload features pushed to production and allowed the company to close deals with more than 5 education institutes, by integrating OpenAI's API with Langchain. Carried out other fullstack features implementation and high-priority bug fixes with javascript, jQuery, bootstrap, and Ruby on Rails.
- Introduced ways to sanitize user inputs, prevent prompt injection attacks, and reduced query time to 30% by performing concurrent programming. Improved accuracy of results by more than 50% and with prompt engineering and developed functions to parse output generated to be integrated seamlessly into the codebase.
- Automated workflow such as benchmarking of question generation results by different prompts, and benchmarking with competitors' results using Python. Collaborated with team members in an AGILE environment with SCRUM framework through reviewing pull requests, sprint planning and review, leading deployment meetings.

RAFFLES HALL Aug 2022 - Mar 2023
Student Frontend Developer
- Collaborated with other frontend developers to maintain Raffles Hall's web application serving more than 700 people by primarily fixing bugs. Designed and created frontend components for the Raffles SuperApp in Reactjs, Nextjs, javascript, CSS.

PROJECTS

SOULSCRIBE May 2023 - Present
- Building SoulScribe, a gamified AI-powered journaling app deployed to App Store and Play Store and awarded judges' choice award, top 0.58% (3/518) in NUS Orbital. Done with React Native, Firebase for authentication, cloud functions and database, Nodejs for backend, Jest for unit-testing and Python for prompt testing. Accomplished CI/CD with Github workflow.
- Leverages on libraries such as OpeAIi's text-to-text API and Stable Diffusion's text-to-image API for generative AI functions, Langchain and Pinecone for vector database management, Nativewind CSS for styling, Redux for state management.
- Implemented features such as journaling (where users can earn coins by journaling consistently), recap (where personalized art and highlight are generated based on users' entries every week), shop (where users can buy collectables like characters and pets to customize the appearance of their home page), an AI chatbot, and a feature allowing users to ask questions about past events (which uses vector embeddings to store and retrieve entries based on semantics).

TRADING MODEL Feb 2023
- Created a stock trading programme in Python for the Huawei Innovation Challenge 2022 using machine learning to process 80GB of past stock data to make predictions to predict selling prices of stock and add buy/sell orders to maximize profit with Python, sklearn decision tree, pandas, numpy. Created shell scripts to automate validation and comparison of profit with base model.

OTHERS Dec 2022 - Aug 2023
- Clenched the top prize in SUTD's What The Hack 2023 with emoSense, an application to help people suffering from Alexithymia better understand emotions by it identifies speech in real time, analyse and classify based on the severity of the condition, and provides an audio feedback to the user. Leveraging on speech-to-audio, audio-to-text processing, text-to-text processing generative AI, and text-to-speech processing.
- Designed a telegram bot automating the creation of personalized draft cover letters based on user's profile and company's values by leveraging on generative AI, making use of RESTful APIs, web crawlers, Python.
- Created web application partial clones for Nodeflair and Codomo, integrating a custom AI chatbot tha answer customer questions by drawing details about the company and skip irrelevant questions with Reactjs, CSS, javascript and Restful APIs.
- Developed a program that automates cosmetic processes for the workplace app Cosmos such as auto-clapping, snowballing etc. with Python and libraries such as tkinter and pyautogui.
- Designed and developed multiple generative AI minigames, adding a creative touch to the classic icebreakers, riddles and story chains.
- Collaborated with a partner to develop a telegram bot allowing students to create orders for selected NUS food stalls, and also for students to take up delivery orders to earn a small fee.

SKILLS

Technical: Python, Java, Javascript, Git, Typescript, CSS, Reactjs, Nextjs, Ruby on Rails, bootstrap, RESTful APIs, Firebase, noSQL database, React Native ,Tailwind, jQuery, Unix