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## EXPERIENCE

### Software Engineering Intern

Jun. 2024 – Present

*London Stock Exchange Group - Sustainable Finance Innovation Unit*

*Singapore*

LSEG Labs addresses challenges in financial markets by assessing climate risks and simplifying ESG disclosure

- Contributed to the development of a microservices architecture, enhancing scalability with minimal overhead costs
- Leveraged Infrastructure as Code (IaC) with Terraform to deploy a data-sharing module, achieving consistent, error-free deployments, reduced provisioning times, and ensuring idempotency across multiple environments
- Implemented testing pipelines for cloud applications, ensuring error-free releases and minimizing deployment risks

### Software Engineering Intern

Jan. 2024 – Jun. 2024

*NodeFlair - Tech Career Platform for Southeast Asia*

*Singapore*

NodeFlair is a startup that connects tech talents with job opportunities, streamlining the recruitment process

- Extended existing API on the Ruby on Rails back-end to accommodate new services, elevating site capabilities
- Implemented automated testing in parallel, achieving a 50% reduction in Continuous Integration (CI) testing time
- Set up Docker images for development to mimic production environment, reducing on-boarding time by 80%
- Deployed programmatic SEO strategies to automate the creation of SEO-optimised pages, increasing organic traffic
- Maintained and upgraded functionalities of a Plasmo browser extension, facilitating smoother access to AI tools
- Assisted in upgrading dependencies, ensuring compatibility and improving overall site performance

### Software Engineering / Machine Learning Intern

Nov. 2023 – Jan. 2024

*Home Team Science and Technology Agency (HTX) - xData*

*Singapore*

xData builds data and AI products that enhances the Home Team's capabilities in internal and mission-based operations

- Utilised GenAI to automate the construction of knowledge graphs from unstructured text
- Leveraged knowledge graphs and vector databases to enhance multi-hop question answering (QA) performance during retrieval augmented generation (RAG), leading to greater context precision
- Explored multi-agent LLMs to augment QA capabilities, leading to enhanced complex analysis performance
- Worked on Vertext, an in-house NLP tool serving 10+ government agencies - redesigned frontend with React to improve user experience and refactored codebase to reuse components for cleaner implementation
- Utilized Python with BeautifulSoup for web scraping and performed data cleaning using pandas and NumPy

## EDUCATION

### National University of Singapore

Singapore

*Bachelor of Engineering in Computer Engineering, E-Scholars Programme (3yrs BEng + 1yr MSc)*

### Hwa Chong Institution

Singapore

*GCE A-Levels, 90/90RP (PCME) with H3 Physics Distinction*

## PROJECTS / EXTRACURRICULARS

### Programming Lead | CloudHacks 2024

Nov. 2023 - Present

- Led a team of 3 using Agile methodology to redesign and rebuild promotional website with the Nextjs framework

### Basic Home Server | Repurposed laptop running Ubuntu Server for personal use

Feb. 2024 - Present

- Exposed to the internet via Cloudflare Tunnels and secured with Cloudflare Zero Trust
- Utilised as a cloud compute platform to self-host backend services and Github runners for other personal projects
- Primarily functioning as a NAS (Network Attached Storage) hub for a self-hosted cloud storage solution

**AI**ded | Utilised VGG16 and YOLOv8 to detect anomalies in secure workplaces, accelerating the accounting process

**HeritageHunt** | Full-stack native application featuring a personalised and gamified way to learn about Singapore

**SoundBytes** | Full-stack web application for personalised news podcasts, built with OpenAI and Amazon Polly

## AWARDS

**Micron BACC 2024 - 2nd Runner-up** | **Ground Zero 2024 - Finalist** | **SCS Splash Awards 2023 - 1st Place**

**SUTD What the Hack 2023 - 1st Place** | **HTX HacX! 2023 - 2nd Runner-up** | **CloudHacks 2023 - 1st Place**

## TECHNICAL SKILLS

**Languages:** JavaScript, Python, Ruby, C, C++, SQL, PostgreSQL, HTML/CSS

**Frameworks:** React, React Native, Node.js, Flask, Django, Ruby on Rails, Plasmo

**Developer Tools:** Git, Docker, AWS, Microsoft Azure, Google Cloud Platform, Firebase, Supabase, Neo4j

**Libraries:** NumPy, pandas, Matplotlib, TensorFlow, PyTorch, LangChain, ThreeJS