Wang Yanbao

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EDUCATION

Singapore University of Technology and Design (SUTD)   **Singapore**
- Bachelor of Engineering (Computer Science Design), Honours with Highest Distinction (GPA: 4.67/5)   **May 2020 to Present**
- Relevant Courses: Information System Design & Programming, Engineering Software Construction, Algorithms, Computational Structure, Computer System Engineering, Machine Learning
- Expected Date of Graduation: August 2024

Hong Kong University of Science and Technology (HKUST)   **Hong Kong**
- Exchange program lasting for 4 months   **Feb 2023 to Present**
- Relevant Courses: Communication Network, Search Engine, Social Information Network, Game Programming

Scholarship Program – Senior Middle 2 (SM2)   **Singapore**
- Full undergraduate scholarship offered to top-performing students (top 5%) in China   **July 2019 to Present**

TECHNICAL SKILLS

- Programming Languages: Python, Java, JavaScript, TypeScript, C#, Golang, C
- Database: MySQL, PostgreSQL, MongoDB
- Web Development: HTML, CSS, React, Angular, Flask
- Cloud Service: Digital Ocean, AWS
- Backend Development: Java Spring, Java Spring Boot, Java Spring Cloud, Node.js, Golang
- Middleware: RabbitMQ, Redis
- DevOps: Nginx, Docker
- Software Development Lifecycle and Methodologies
- Windows and Linux Operating System
- Android App Development
- Web Crawling (Selunium)
- Algorithm and Data Structures
- Deep Learning (TensorFlow and PyTorch)

WORK EXPERIENCES

Moaah   **Singapore**
Software Developer Inter   **August 2022 to December 2022**
- Built the service website for the company that serves to display results from the backend for users who subscribe our services.
- Developed and maintained RESTful APIs written in Node.js. Responsible for improving the performance and scalability of existing backend services. Using queue-promise to execute tasks in parallel to reduce calculation and processing time. The search functions eventually run 5 times faster than before (4-5s compared to 20s).
- Used Nginx server to deploy the frontend and backend services separately.
- Created new pages and features for the company's website using JavaScript and template HTML and CSS. Submit all website pages to be indexed by Google to make it rank higher in Google search result.
- Implemented ML techniques to extract and process texts from receipts images which are later used in dangerous goods detection system to reflect the dangerous level of a cargo. The overall system achieves over 90% accuracy.
- Conducted web crawling using python selenium and aiohttp to achieve concurrent scraping which significantly reduced the scraping time. Setup the company's database in PostgreSQL with the data crawled.

Harvest Fund   **Beijing, China**
AI Developer Intern   **June 2021 to August 2021**
- Developed an NLP model using SBert to conduct text classification (whether a financial analyst's description is prospective) with pytorch. The accuracy reached above 95%.
- Processed and cleaned large datasets using Pandas, preparing them for model training and further analysis.
- Made a pipeline that receives judgement from financial analysts as input, finding keywords according to a financial dictionary and clustering text data into industry topics. Finally visualized trends and popular industries in the stock market over time.

iTrust (SUTD) Student Helper   **Singapore**
Frontend Developer Intern   **January 2023 to Present**
- Created a GUI using python to label information on images that can significantly speed up the component creation by reading the label information to auto generate the component in Unity. The GUI is implemented with a chain-of-responsibility pattern that is able to detect single click, double click, mouse drag and keyboard event and will respond accordingly to perform different tasks.
- Implemented template matching and OCR to enable finding all similar components in the image and recognizing texts around a label to reduce the labeling time. Finetune the model to improve the accuracy and recall.
- Wrote C# scripts to define the behavior of the components including scene switching and popup window according to component type and automatically create those interactive components in unity by reading the labeling information.

ACADEMIC   PROJECTS

Discord Bot for Age of Empire2   **Singapore**
Software Developer   **May 2022 to August 2022**
- Developed a feature-rich Discord bot with more than 50 commands for managing AoE2DE team games using Discord.js with Typescript. The system has a complex database structure for player data management. SQLite is used to store the data and typeORM is adopted for connection and operation on the database.
- Implemented unit test with Jest and achieved over 90% test coverage.
- Project link: https://github.com/Divy1211/TGBot

"Pick Before Go" – Android App Development   **Singapore**
Software Developer   **January 2022 to April 2022**
- Worked in a team of 7 to build an Android app to improve customers' shopping experience in an automatic shop at our university. Users are able to see the product price, discount, storage and other information and is able to add their favorite items in a collection list.
- Designed user-friendly UI/UX with Figma and implemented the design in the frontend with xml and Java Android. The app is integrated with Google Firebase and is able to receive real-time data updates. Dynamically create product cards by loading the data from firebase.
- The app has an admin role. The admin role is able to edit the product card and the edited data will be reflected in the database.
- Project link: https://github.com/wangyanbao666/SUTD-CSD-Term4-50.001-1DProject-PickBeforeGo

"BombGuy" – Online Game Design   **Hong Kong**
Software Developer   **February 2023 to May 2023**
- Inspired from Bomb Man and Fall Guys to create a new game that combines the most interesting features of the game. It is meant to be an online game so that player can easily join the game by going to the game website.
- Used three.js to and cannon.js for the scene rendering, players movement and other game logics. Used socket.io to synchronize the real time client behaviors. Managed to reduce the lag in synchronization by extrapolating the movement of the player.
- Project link: https://github.com/wangyanbao666/BombGuys

Search Engine   **Hong Kong**
Software Developer   **February 2023 to May 2023**
- Crawled more than 300 webpages using htmlparser. Stored forward and backward index for the pages and words and information of the pages including content length, crawling time and child links as the crawling goes on. Used tf-idf and cosine similarity to calculate the weight of each word and compute the relevance score between a searched term and the stored web pages. Phrase search is allowed by storing bigrams information in the database.
- The backend is implemented with Java Spring Boot and the frontend is implemented with react. The registration/login feature is integrated to make it possible for storing the search history. A data context is used in the frontend to store the login information.
- Project link: https://github.com/wangyanbao666/Search-Engine

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Guitar Club   **Singapore**
President   **May 2021 to May 2022**
- Organized regular training sessions and performances.
- Coordinated performances for elderly residents at Pearl's Hill Care Home.

IES Club   **Singapore**
Project Manager   **May 2020 to May 2022**
- Conducted a workshop series on machine learning and quantum machine learning, with over 100 attendees.
- Organized and taught an algorithm competition, helping first-year students develop problem-solving skills.

Machine Learning TA   **Singapore**
                                                                                                    May 2023 to Aug 2023
- Responsible for answering questions from students and correct their homework.
- Cooperated with the professor to set up the project for this course.

ADDITIONAL INFORMATION
- Language proficiency: Fluent in English and Mandarin
- Enjoys working collaboratively in diverse teams