Dongwoo **Han**

SOFTWARE DEVELOPER · BACK-END ENGINEER

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Skills

Web Development	Django, Flask, FastAPI, Node.js, MongoDB, PostgreSQL, MySQL, JS ES6
Data Science	Reinforcement Learning, NLP, SpaCy, PyTorch, OpenAI, ScikitLearn, Tensorflow, Pandas, NumPy
Language & DevOps	Python, Java, Kotlin, JavaScript, C, HTML, CSS, Cucumber, Github, Jira, Jenkins, Agile, BDD
Languages	Korean, English, Chinese(Conversant)

Work Experience

Garena *Singapore, Singapore*
SOFTWARE DEVELOPER INTERN *May. 2022 - Ongoing*

- Automated Android test using Java and Kotlin and created highly scalable, maintainable baseline for future Android Test Automation, implemented REST API calls to mock server to increase test flexibility and replaced manual UI test with automated UI test.
- Researched most suitable SDLC practice for the product and adopted Behavioural-Driven Development in Web and Mobile Testing processes using Cucumber, which significantly increased re-usability of code and maintenance of test-cases.

SAP Asia *Singapore, Singapore*
FULL STACK DEVELOPER INTERN *Aug. 2021 - Dec. 2021*

- Worked as a Scrum Master in an agile CI/CD environment and participated in release process using Jira, Jenkins and Github.
- Maintained and improved a Recommendation Webapp built with Flask and PostgreSQL hosted on CloudFondry through continuous updates and bug-fixes using Python and SQL.
- Fixed software bugs and enhanced the software by problem-solving and building unit-tests with PyTest to verify code changes through using tools, such as Postman and Kibana, which improved the stability and traceability of the application.
- Delivered quality codes with in-line comments, detailed documentation and QA tools, such as SonarQube.

Education

Nanyang Technological University (NTU) *Singapore, Singapore*
B.E. IN COMPUTER SCIENCE *Aug. 2017 - Dec. 2022(Exp)*

- CGPA: 4.61/5.00 (Expected: Highest Distinction)
- Elective Focus Area: **Data Science** & **Artificial Intelligence**

Projects

Final Year Project: Optimizing Epidemic Spread using Deep Reinforcement Learning *NTU*
DEVELOPER *Jan. 2022 - Ongoing*

- Built a simulator for COVID-19 from scratch using Python and OpenAI's Gym Environment to reflect the actual reproduction rate of COVID-19.
- Utilized State-Of-Art Deep Reinforcement Learning models such as DQN, DDQN and PPO and trained them inside the simulator environment.
- Evaluated results to find the best performing model and created a website using Streamlit and MongoDB in Python to present the findings.

Information Retrieval: Sentiment-based Business News Analyzer *NTU*
LEADER, BACK-END DEVELOPER, DATA SCIENTIST *Feb. 2022 - Apr. 2022*

- Extracted 20,000 news articles using BeautifulSoup and Newspaper3K, and stored them inside a search engine, Solr.
- Developed Machine Learnin model, including RoBERTa model using SpaCy for Named Entity Recognition (NER) and DistilBERT model using HuggingFace for Sentiment Analysis, and achieved an accuracy rate of 81% and 85%, respectively.
- Built a demo Web application using Streamlit to showcase the ML models, which effectively delivered the purpose of the ML models to users.

iNTUition: Bus Live Location System *Hackathon*
LEADER, BACKEND DEVELOPER *Feb. 2022*

- Instrumented the system design for the Web Application by selecting MongoDB for the database, FastAPI for the server and Flutter for client applications, and efficiently assigned the work to 3 other members.
- Developed NoSQL DB schemas and backend server using FastAPI, and deployed the server on Heroku in the given 24 hours, which allowed easier integration with the client application.

Course Planning Website *NTU*
LEAD DEVELOPER *Dec. 2020 - Apr. 2021*

- Implemented course schedule scraper from the University's server and planning algorithm with optimized time complexity using Python.
- Instrumented the system design of the application, work distribution among team members and management of project schedule as the leader.
- Developed the back-end REST API using Flask, and utilized the final deliverable to automate the course scheduling.