Dongwoo **Han**

Software Developer · Back-end Engineer

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Skills

Back-end	Django, Flask, FastAPI, Node.js, MongoDB, PostgreSQL, MySQL
Data Science	NLP, SpaCy, PyTorch, ScikitLearn, Pandas, NumPy
Programming	Python, Java, JavaScript, C
Others	HTML, CSS, JS, Github, Jira, Jenkins, Agile
Languages	Korean, English, Chinese

Work Experience

SAP Asia
Singapore, Singapore

Full Stack Developer Intern — *Aug. 2021 - Dec. 2021*

- Worked as a Scrum Master in an agile CI/CD environment using Jira, Jenkins and Github
- Supported multiple successful releases of a Web application built with Flask and a PostgreSQL DB running under CloudFondry through continuous improvements and bug-fixes.
- Built test-cases with PyTest and verified codes through Unit Test and E2E test using tools, such as Postman and Kibana, which improved the stability and traceability of the application.
- Delivered quality codes with in-line comments through detailed documentation and QA tools, such as SonarQube.

School of Economics, NTU
Singapore, Singapore

Student Assistant — *May. 2021 - Aug. 2021*

- Developed a simulation tool for the Multi-prisoner's Dilemma using Python, which assisted the professor with his research.
- Evaluated competencies of existing strategies against each other, and attempted to build a new strategy using hyperbolic discounting.

Education

Nanyang Technological University (NTU)
Singapore, Singapore

B.E. in Computer Science — *Aug. 2017 - Dec. 2022(Exp)*

- CPGA: 4.61/5.00 (Expected: Highest Distinction)

Projects

Final Year Project: Optimizing Epidemic Spread using Deep Reinforcement Learning
NTU

Developer — *Jan. 2022 - Ongoing*

- Built a SEIR model simulation for COVID-19 under Python and OpenAI's Gym Environment, which reflects the reproduction rate of COVID-19.
- Utilized State-Of-Art Deep Reinforcement Learning models such as DQN, DDQN and PPO and evaluated them to find the best performing model.

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 Learning (ML) 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.

Websocket Live Ban/Pick Simulator of League of Legends
Personal Project

Developer — *Mar. 2022*

- Built a real-time update application using Websocket, FastAPI Server and JavaScript Client, which was hosted during a friendly tournament.

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 the course schedule scraping 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.