Sangwoo Han

Website | GitHub | LinkedIn

Experience

Software Developer | DNEG May 2022 – Present
Python, Flask, MySQL, RabbitMQ, Jira, Jenkins *Montreal*

- Designed and implemented an asynchronous automated testing service with RabbitMQ, reducing key testing workloads by up to 50%.
- Implemented scalable APIs to manage DCC assets such as rigs, models, and textures.
- Addressed regular bugs and feature requests in existing services leveraging CI/CD pipelines to rapidly iterate and Kanban boards to prioritize requirements.

Software Developer Intern | Atelier Paper May 2021 – September 2021
Azure, GitHub Actions, Node.js, Express.js, PostgreSQL, Redis *Seoul*

- Designed and implemented scalable APIs to manage construction documents.
- Reduced response time by up to 80% of key REST API endpoints by updating database indexes and implementing caching with Redis.
- Identified and addressed SQL injection vulnerabilities in major services.

Projects

Channels | *Flask, PostgreSQL, React.js, Auth0, Socket.IO, Azure (Static Web Apps, App Services, Web PubSub)*

- Built an instant messaging social platform where users can create and join channels to chat.
- Implemented a single-page application in React.js, added authentification with Auth0, and deployed it with Azure Static Web Apps leveraging global hosting, reducing load time by up to 70% (tested on Korean users).
- Designed and implemented a microservice architecture with a web, chat, notification, and online presence service.
- Deployed services with Azure and integrated CI/CD with GitHub Actions.

Porrent | *Python*

- Built a BitTorrent Client from scratch with Python.
- Implemented bencoding and bdecoding algorithms to parse Torrent files.
- Extensively used socket programming to communicate with trackers and peers.
- Leveraged multithreading to concurrently download data from peers, reducing average download time by 95%.

Deep Learning Library | *Python*

- Built a deep learning library in Python without using any third-party libraries except NumPy.
- Vectorized forward and backpropagation, reducing the time to train a simple 3-layer neural network by 98% to score a 99% accuracy on the MNIST dataset.

Sign Language Detection | *Python, PyTorch, React*

- Trained a neural network to recognize sign languages using PyTorch.
- Built a single-page application with webcam access with React.js.
- Deployed the application with Cloudflare CDN, reducing load time by up to 63.33% (tested on Korean users).

Technical Skills

Languages: Python, JavaScript/Node.js, Go, C, Java
Frameworks/Libraries: Flask, Express.js, PyTorch
Developer Tools: Azure, Cloudflare, Docker, PostgreSQL, MySQL, Redis, RabbitMQ, Jira, Jenkins, GitHub Actions

Education

Concordia University Montreal
Bachelor in Computer Science and Mathematics *Aug 2018 – May 2022*

- GPA: 3.5