

Sangwoo Han

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TECHNICAL SKILLS

- Go | Python | JavaScript | Flask | Postgres | AWS RDS | Redis | AWS DynamoDB
- AWS | Azure | Docker | Kubernetes | Kafka | Jira | Jenkins | GitHub Actions | Grafana | Elastic Stack

WORK EXPERIENCE

DNEG

May 2022 – Present

Software Developer

Montreal, Canada

- Led the development of Helix API. Managed/prioritized requirements, designed/reviewed architecture, and discussed project roadmap with PM and EM.
- Reduced response time by up to 50% of key Helix API endpoints by implementing a look-aside write-through caching layer with Redis and leveraging database connection pooling with AWS RDS Proxy.
- Fixed race condition in API throttling service by implementing Sliding Window with Redis sorted sets (sorted by timestamps) and leveraging Redis pipelining to atomically execute commands.
- Implemented the reconciliation service for the payment backend of VFX Assets Marketplace to handle/queue any mismatches between Stripe's payout reconciliation report and our ledger service.

Atelier Paper

May 2021 – September 2021

Software Developer

Seoul, Korea

- Designed and implemented scalable APIs to manage construction prototypes and standardize proprietary file formats from various Computer-Aided Design (CAD) softwares.
- Increase our CAD metadata service throughput by over 100% by leveraging database connection pooling, goroutines to make asynchronous calls to other services, and database indexing.
- Built an asynchronous Python logging handler that reduced latency of our encoding services by up to 15%.

Atelier Paper

May 2020 – September 2020

Software Developer

Seoul, Korea

- Implemented group messaging in our customer support chat service leveraging Socket.IO with a Redis adapter to synchronize the state of connected clients and rooms.
- Build and integrated unit, integration, and load tests into CI workflow to recently migrated projects, increasing average code coverage from 60% to 90%.

PROJECTS

Deep Learning Library | *Python, NumPy*

- Built a deep learning library in Python without using any ML 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.

BitTorrent Client | *Python*

- Implemented encoding and decoding 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%.

Instant Messaging Social Platform | *Go, PostgreSQL, React.js, Auth0, Socket.IO, Azure*

- Designed and implemented a microservice architecture with a web, chat, notification, and online presence service.
- Containerized services with Docker, deployed with Azure, and integrated CI/CD with GitHub Actions.
- Implemented a single-page application in React.js, added authentication with Auth0, and deployed it with Azure Static Web Apps leveraging global hosting, reducing load time by up to 70%.

EDUCATION

Concordia University

Montreal, Canada

Bachelor in Computer Science and Mathematics

Aug 2018 – May 2022

- GPA: 3.5