

Shuai Huang

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EDUCATION

Carnegie Mellon University, Silicon Valley

12/2021

Master of Science in Electrical and Computer Engineering

University of California, San Diego

03/2019

Bachelor of Science in Computer Science

PROFESSIONAL EXPERIENCE

Hive AI San Francisco, CA

05/2019 – 02/2020

Software Engineer Intern

- Designed and automated data pipeline in **NodeJS** with **RabbitMQ**, and **PostgreSQL** to flow tasks for Data Labeling projects, and to integrate ML models into clients. **Jenkins** and **Marathon** are used to increase concurrency and help speed up the process by more than 5X.
- Fetched and stored more than 100 GB data per project in AWS S3.
- Scrapping in NodeJS more than 1,000,000-hour video footages from YouTube and more than 100,000 photos from social media through tools such as youtube-dl, and cheerio to train Labeling and Speech Recognition models.

Morgan Stanley Shanghai, China

07/2018 – 09/2018

Software Engineering Summer Analyst

- Built Backend System of an order tracing tool in **Python** for Listed Sales & Trading Team.
- Developed visual cash order flow (a network of tree structured connections) to save more than 2 hours daily locating issues if an order is not sent to the exchange.
- Improved performance by 2X by utilizing a cache that maps connections to processes.

PROJECT EXPERIENCE

CORBA Fault-Tolerant Distributed System

06/2020 – 08/2020

Distributed System Course Project at Carnegie Mellon University

- Replicated servers both passively and actively in **Java** with **Spring Boot** to achieve fault masking and maintain consistency across servers deployed on separate **EC2** instances. As a result, fault is detected, faulty server is restarted, and clients receive correct responses when fault exists.
- Bridged communications through **RESTful** requests among Replication Manager, Detectors, and Servers to perform operations such as checkpointing, membership update, and detection.
- Redesigned Replication Manager as an intermediary, and broadcast requests to servers to achieve total ordering.

Mini-Ins

04/2020 – 05/2020

*Personal Project that Mimics Instagram's Backend Features Using **Spring Boot***

Link: <https://github.com/omishuai/minilns>

- Allowed services to interact via **RESTful APIs**, such as POST and GET, and exchanged photo, message, comments and user information through **Spring Data JPA** and **MySQL** to store and retrieve.
- Created a messaging system through **WebSocket** and locking mechanism to allow user intercommunication.
- Customized Authentication and Authorization in Spring Security Filters and secured user interaction with backend through **JSON Web Token (JWT)**.
- Tested with **Unit Testing (JUnit)**, and **Acceptance Testing (Cucumber)**. Also, for testing purpose, replaced MySQL with **In-Memory Database H2**, and sent HTTP requests with **RestTemplate**.

ChatApp DAO

03/2017 – 06/2017

Collaborative Project that Builds a ChatApp through CodeU Program at Google

- Implemented data access and validation component to **MySQL** using **Java** and **JDBC**.
- Reduced user's wait time with an open connection pool and ensured connection availability via DBCP.

SKILLS

Programming Languages: Java, SQL, NodeJS, Python

Database and Cloud Technologies: MySQL, MongoDB, PostgreSQL, H2, RabbitMQ, RESTful, AWS (EC2, S3), Docker

Frameworks and Services: Spring Boot, ExpressJS, RESTful

Development Solutions: JIRA, Git, Perforce

Experienced Areas: Distributed System, Backend Development, Databases, Agile Development