Haiyang Yu

Email : haiyangy@andrew.cmu.edu
Mobile : +1-408-839-3245

Education

- **Carnegie Mellon University Silicon Valley** — Mountain View
  Master of Science in Software Engineering — *Jan. 2018 – May. 2019*
- **Nanyang Technological University** — Singapore
  Bachelor of Engineering, Electrical and Electronic Engineering; GPA: 4.61/5.0 — *Aug. 2010 – May. 2014*

Technical Skills

- **Languages**: Java, Python, C, C#, Shell, SQL, JavaScript
- **Technologies**: Ceph, Consul, Docker, Docker Compose, MapReduce, Linux, gRPC, Registrator, Google Guava, HOCON, Android, Angular, Angular Material, Express, Node.js, MongoDB, Pandas, NumPy

Work Experience

- **Moqi.ai** — Beijing, China
  Software Engineer Intern — *May 2018 - Aug 2018*
  - **Fingerprint System Fault Tolerance Project (Java)**
    Improved system uptime from 93% to 99% and avoided losing segments when matching servers crash.

    - Set up **Ceph Filesystem** with **Erasure Coding** as main distributed storage for segments cached in matching servers' memory.

    - Designed and implemented auto discovery of online/offline **dockerized** matching servers through **Consul** and **Registrator**, which triggers segment redistribution among matching servers and segment recovery from Ceph Filesystem.

    - Designed and implemented Controller **Active/Standby Failover** through **Consul's Leader Election**.
  - **Fingerprint System Docker Compose**
    Simplified fingerprint system testing through creating **docker compose** file to run the entire fingerprint system on a single server. The fingerprint system consists of heterogeneous **gRPC** services written in Java, Python, C++ as well as Redis, Cassandra and SeaweedFS.
- **Barclays Capital Services** — Singapore
  Software Engineer — *Jun 2014 - Dec 2017*
  - **Trade Reporting Processor (Java)**
    Implemented Trade Reporting Processor that retrieves and applies trade reporting obligations. Implemented caching of index constituents using **Google Guava** that cut down query time by 50%.
  - **Sparta Deployment Automation (C#)**
    Fully automated Sparta deployment to 24 servers across 5 countries that used to be manual and sluggish. This consisted of migrating Sparta from **Perforce** to **Git** version control system, and implementing continuous deployment through **TeamCity** and **Nolio**.

Projects

- **Malloc (C)**

  - Independently implemented a **dynamic memory allocator** using **segregated free list** that achieved 74.1% memory utilization and 20,000 throughput.

- **Emergency Social Network (JavaScript)**

  - Developed a chat application designed for times of disaster that provides functions including public chat, private chat, post announcement, share status, user administration and emergency contacts.

  - Used **Angular framework** and **Angular Material** for frontend, **Express** and **Node.js** for backend, **MongoDB** for database.

- **Movie Box Office Prediction (Python)**

  - Crawled raw html of over 8,000 movies from Box Office Mojo and parsed them into box office data using **lxml**. Processed box office data using **MapReduce**. Extracted features using **Pandas**, **NumPy** and **One Hot Encoding**.

  - Trained 2 prediction models using **Linear Regression** and **Decision Tree Regression**. Evaluated their accuracy based on **mean squared error**.