Sihan Cai

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SUMMARY

- **Objective**: 2020 Summer Software Engineer Internship
Bachelor degree candidate has a wide range of internship experience and project experience, including **Full Stack** Web Application, **Back-end** development, and **Micro-services** Architecture

EDUCATION

Washington University in St.Louis — Missouri, USA
Bachelor of Science in Computer Science; GPA: 3.5/4.0 — *Expected May 2021*

Denison University — Ohio, USA
Bachelor of Art in Mathematics; GPA: 3.5/4.0 — *August 2016 - June 2019*

SKILLS

- **Languages**: Java, HTML5/CSS3, Python, JavaScript, PHP, SQL
- **Database**: MySQL, MongoDB, Redis, PostgreSQL, HBase
- **Tools**: GIT, Kubernetes, Docker, Nginx, AWS, Elastic Search, Restful API, Google FileBase, Webpack
- **Framework**: SpingBoot/Spring MVC/Spring, Spring Data JPA, Spring Security, Hibernate, Mybatis, ReactJS, Vue, jQuery, JDBC
- **Test**: JUnit, Mockito

EMPLOYMENT EXPERIENCE

Unibit Inc: Similiar to Yahoo finance — Allston, MA
Full-Stack Software Intern — *May 2019 - August 2019*

- **Unibit API**: **Java**-based platform to offer standardized financial data and information
  * Implemented web application based on **SpringBoot** to provide **900K** different format finance data including JSON and EXCEL
  * Decomposed tables in third normal form (**3NF**), reducing data size to **10**%, optimizing complex query performance, saved **21%** query time
  * Accomplished cache with **Redis**, increasing I/O performance and reducing response time by **90%**
  * Automated system deployment with **Docker**, **Nginx** on **AWS EC2** server and **AWC ELB** as a load balancer
  * Designed an interactive Unibit API web page for over 1000 paid customers, **Accenture** and **Salesforce**, utilizing **Vue** and **Google FileBase** to store images, descriptions, titles
- **Data Terminal**: Client-side **PHP** and **Java**-based platform to get more comprehensive and commercially valuable data
  * Developed intelligent search engine using **Elastic Search** Cluster server, minimizing the time of searching finance data up to **55%**
  * Utilized **Hibernate**, **Spring Data JPA** to provide normalization in **MySQL**, which contains more than **500K** records
  * Used **Kubernetes** for event analysis and created **MongoDB** shared cluster for storage
  * Researched **content-based** recommendation algorithms and combined **AI**, **prediction algorithms** to oversee the relationship between stock prices and news so that each paid customer can minimize investment risk, saving stocking cost for over **10K$**

Huanshitong Construction Machinery Company — Baotou, Inner Mongolia
Software Engineer Intern — *July 2018 - September 2018*

- **E-Inventory Management System**: **Java**-based system to supervise commodity
  * Built a web application on **Spring MVC** to support logistics and people management services, saving **30%** time-cost from the traditional management system and creating an extra $**3000** profit
  * Administrated security workflow via in-memory and **JDBC** authentication provided by **Spring Security**
  * Employed **Spring Rest API** to handle HTTP requests, responses and **PostgreSQL** to offer a custom plugin to enhance flexibility, increasing developing efficiency up to **15%**
  * Utilized **HBase** to provide data reading and processing, saving time for **25s**
  * Performed load test with **JUnit** and **Mockito** to keep Spring Framework unit tests light and fast, testing system availability using **Postman**

PROJECTS

- **BootDo Background Management System**: **Java**-based Background Management system, including System modulo, Office modulo, blog modulo, and department modulo
  - Integrated a dashboard using **React**, **D3** and **Ant Design** to visualize the sales of iPhone product in China
  - Designed **Restful APIs** to handle HTTP requests, implementing user authentication, authorization
  - Optimized the user experience by adding a style bar to alter the style of the website, using **jQuery**
  - Developed a **Spring Web Flow** to support item ordering
  - Instituted **Spring MVC** backend service based on **SpringBoot**, simulating the real Company Management System
  - Utilized **Mybatis** and **Hibernate** to provide better support of database operations