**Haitian Ren**

robin12rht@gmail.com | (215)-9210-870 | Philadelphia, PA

www.linkedin.com/in/haitian-ren-a27614184/

**EDUCATION**

**University of Pennsylvania,** Philadelphia, PA Sep. 2020-Dec. 2022

Master of Engineering in Computer and Information ScienceCumulative GPA: 3.9/4.0

***Relevant Courses:*** The Design and Implementation of Operating Systems, Web and Internet Systems, Database Systems

**ShanghaiTech University**, Shanghai, China Sep. 2016-Jul. 2020

Bachelor of Science in ComputerScienceCumulative GPA: 3.67/4.0 (Rank 12/144)

***Honors and Awards:*** Merit Scholarship (for top 15% of students), twice in a row from 2016 to 2017

**PROFESSIONAL EXPERIENCE**

**Full-Stack Programmer,** PRECISE Center, Philadelphia, PennsylvaniaJun. 2022 - Present

* Used **Spring-boot** framework and Reactor library to build a RESTful backend for a medical device management service. Accessed and parsed data stored in the MongoDB database, received and processed the streaming data from Kafka servers. Implemented additional functions as medical devices monitoring, account management and email alerts.
* Leveraged the React.js framework to create frontend components. Maintain the frontend-backend communication.

**Student Researcher,** Penn Database Group, Philadelphia, PennsylvaniaJan. 2022 - Present

* Had research on distributed data management and integration. Used **Java** to write a query engine that provided simple and fast queries to the data stored in different storage systems including **MySQL**, **MongoDB** and **Neo4j** Database.
* Created a Web Data Management System, which turned users’ raw data file into a clear view of a graph, letting them query and modify their data with simple Cypher queries.

**Research Assistant,** Parallel Computation Laboratory, Shanghai, ChinaJun. 2020-May. 2021

* Used parallel computing algorithms and **C++** to solve existing data storage problems and improve query performances.
* Improved the search and insertion processes in the current database systems and analyzed its performance by creating a new type of parallel B+ tree querying algorithm, which was scalable and had good performance in processing a large amount of data within a very short time.

**Research Assistant,** Wireless and Mobile Systems Laboratory, Shanghai, China Mar. 2019-May. 2020

* Constructed a GUI experimental platform integrating a picture viewer (showing stimulus to testers), a data collector and control buttons through **Python**, successfully collect data from dozens of testers and complete the experiments.

**SELECTED PROJECTS**

**Personal Website** Jan. 2022 **-** Present

* Use **Spring-boot** framework as backend and **React.js** as frontend to build a personal website from scratch. Set up service on Amazon EC2 and acquire the domain name from Google. The URL is <https://robinseasky.org>.
* Implemented some exciting web applications like File Transfer or Bill Splitter. Will add more in the future.

**Yelp-Like Business Discovering Website** Sep. 2021**-**Dec. 2021

* Use JavaScript and full-stack frameworks as Node.js and React.js to build a business searching website, providing users with services as business searching and recommendation.
* Stored source data in the Amazon RDS and used MySQL to acquire the data. Implemented more than 20 different queries to finish various tasks, including searching restaurants with good reviews or the cheapest stores nearby.

**Small-Scale Search Engine** Apr. 2021-Jun. 2021

* Built a search engine through SparkJava framework, which provides access to more than 100,000 websites. Created a page crawler that is able to collect 100,000 pages from the Internet within hours.
* Used Apache Storm to coordinate distributed multiple nodes and processed the crawled data by Map-Reduce algorithms.

**Micro Web Service Framework** Feb. 2021-Apr. 2021

* Constructed an HTTP web framework through JAVA, which has the ability to receive HTTP/1.1 requests from the Internet and reply with HTML response within 2ms.

**PennOS: A Light Weighted Operating System** Apr. 2021-Jun. 2021

* Created a lightweight operating system from scratch, emulating a lot of basic Linux OS properties such as FAT filesystem, memory management and process scheduling.

**TECHNICAL SKILLS**

Java, C++, Python, JavaScript, CUDA, React.js, SQL, C