

# HAO ZHONG

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## TECHNICAL SKILLS

### Development Languages

Java    JavaScript    Python    C  
C++    Assembly    Matlab

### Frameworks

Flask    Django    Node.js    RESTful  
Spring    Serverless    Express

### Databases

PostgreSQL    MySQL    SQLite

### Tools

AWS    Git    Jenkins    Docker  
Postman    Tomcat    VirtualBox

## PROJECTS

### Coursera

- Machine Learning (**Python**)
- Control of Mobile Robots (**Matlab**)

### Distributed Charity System

- Programmed in **Python** to implement a distributed and decentralized charity management system by **Blockchain** to increase donation transactions transparency

### MarText

- Programmed in **React** to achieve an offline distributed marketplace through text

### Remote Control Car

- Programmed in **C** to implement the self-driving function, which allow the car driving obey on tracker sensors and object avoidance sensors to follow the line on the ground

## EDUCATION

### University of Waterloo

- Bachelor of Applied Science in Computer Engineering
- Relative Courses: Algorithms and Data Structures, Autonomous Vehicles, Operating System, Compilers, Database, Networks, Distributed Computing

## WORK EXPERIENCES

### Software Engineer | Capital One

📅 July 2021 – Present    📍 Toronto, Ontario

- Implemented front-end reusable components for a web-based call center servicing tool by **Vue** and developed back-end server by **Java**
- Created unit and functional tests by **Jest**, **Cypress**, **Mountebank** and **JUnit** with **100%** unit test coverage, and verified UI accessibility by **Evinced**
- Deployed and maintained applications by **AWS Connect**, **EC2**, and **RDS**

### R & D Engineering Intern | FinVentures

📅 September – December 2020    📍 Waterloo, Ontario

- Developed back-end server for a course purchasing application in **Java**, **Maven** and **Spring Boot** to allow client load/spend/transfer course credits
- Configured the authorization system in **OAuth 2.0** to enable the application to obtain limited access to user accounts on the back-end server
- Designed database tables in **MySQL** to store user account and transaction history
- Implemented advanced SQL query to detect suspicious transactions based on multiple suspicious transaction indicators provided by FINTRAC

### Software Engineering Intern | Capital One

📅 January – April 2020    📍 Toronto, Ontario

- Built a REST API to obtain product details using **serverless** architecture on **AWS Lambda** with **Application Load Balancer/Route53** for load balancing and routing
- Designed API architecture, endpoints, parameters, response payload, and analyzed security risks and API performance
- Developed reusable **React** components with **100% Jest** unit test coverage for Capital One's UI library, reducing the size of frontend codebases by up to **50%**
- Configured **CI/CD** pipelines using **Jenkins** and **Terraform** to automate the versioning, packaging, testing and deployment of packages

### Full Stack Developer Intern | IBM

📅 May – August 2019    📍 Ottawa, Ontario

- Designed and built dashboard configuration **React** components to a cloud security application with **Redux** to allow user customize dashboard contents
- Created RESTful endpoints in a **Flask** and **Python** back-end driven by **SQLAlchemy**
- Implemented background tasks and reduced project loading/refreshing time by **6%**

### Java Developer Intern | CGI

📅 September – December 2018    📍 Markham, Ontario

- Developed new features to a portfolio management platform in **Java** and **MySQL**
- Provided **80%** or better code coverage by creating unit tests using **JUnit**
- Worked in the **Agile** development environment to deliver new features quickly

### Node.js Developer Intern | OpenText

📅 January – April 2018    📍 Waterloo, Ontario

- Built back-end logic for whitelist feature with **Node.js** and **PostgreSQL** for a cloud storage platform to allow admin user adding granted users to access the platform
- Designed back-end logic to reduce bulk importing CSV time by **5%**
- Improved unit and integration test coverage up to **90%** using **Mocha**