

Ziqi Dong

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Looking for **Software Engineer** full-time position. 2020 **Wayfair** SDE summer intern recipient.

EDUCATION

Carnegie Mellon University, School of Computer Science

Pittsburgh, PA

Master of Software Engineering - Scalable Systems | QPA: 3.59/4.00

Dec. 2020

Selected Coursework: Computer Systems, Software Systems, Software Artifacts, DevOps, Scalable Systems.

Northeastern University

Shenyang, China

Bachelor of Engineering in Software Engineering | GPA: 3.62/4.00 | Major GPA: 3.81/4.00

Jun. 2019

Honor: Meritorious Winner, Mathematical Contest in Modeling, COMAP; Academic Outstanding Individual among 200 students.

SKILLS

Languages: Java, Python, JavaScript, C++, C, Groovy, HTML, SQL. **Databases:** MySQL, MongoDB, PostgreSQL, MSSQL, SQLite.

Frameworks: Spring Boot, Spring MVC, REST, Android.

DevOps: Docker, Jenkins, Travis CI, Ansible, Vagrant, Kubernetes.

Tools: Maven, Gradle, Firebase, AWS, Node.js, Express.js, Nginx, React.js, Angular, Vaadin, Qt, TensorFlow, Keras, OpenCV, Alloy.

PROFESSIONAL EXPERIENCE

Cyber Crucible, Inc.

Severna Park, MD

Software Engineering Intern

May. 2020 - Present

- Developed an **Android app** for encrypting services with **AWS (SNS, Cognito, Lambda)** and **Firebase Cloud Messaging** which can notify users of potential ransomware attacks and allows users to take actions that reduces the time of user responses by **20x**.
- Designed and implemented **RESTful APIs** based on **Groovy** and **MongoDB** for the functionalities in **10+** encrypting services.
- Developed a **web app** based on **Spring Boot** along with **Angular**, **Vaadin** and **MongoDB** for the core encrypting services.

CMU Database Group

Pittsburgh, PA

Research & Development Intern - <https://github.com/oltpbenchmark/oltpbench>

May. 2020 - Present

- Restructured the **OLTP-Bench** framework which covers **16** types of benchmarks crossing **20** types of DBs using **Maven**, **Travis CI**, **Docker**, and **HikariCP** that improves the efficiency of building/running the benchmark, generating reports by **100%**, and the scalability of adding new benchmarks and DBMSs by **50%**. Reduced the average OLTP transaction response time by **400%**.
- Tested the self-driving DBMS **NoisePage** on **EC2** against **Microsoft SQL Server**, and improved the database transaction throughput to **3k+/sec. (1.5x)** (<https://beta.noise.page>).

Virginia Tech

Blacksburg, VA

Research Intern - <https://dl.acm.org/doi/pdf/10.1109/ICPC.2019.00052>

Sep. 2018 - Jun. 2019

- Created a similar code pair database by mining data from **J2EE** and **BigCloneBench**, and implemented a tool based on **CNN** model and **code2vec** which can detect the **level 4 code clone** snippets crossing **Java** and **C#** which achieved an accuracy of **96%+**.
- Mined data with migration-related (MR) commits and constructed a database that was used in **Meditor**, a tool learns API migration pattern, achieved **95%+** accuracy. (**Publication:** Shengzhe Xu, Ziqi Dong, Na Meng, Meditor: Semantics-Based Generation and Application of API Migration Edits, 2019 ACM International Collegiate Programming Contest (ICPC 2019)).

NEUSoft, Inc.

Shenyang, China

Software Engineering Intern

Jun. 2018 - Aug. 2018

- Developed the beta-version of an end-to-end smart logistics system using **Qt** and **C++** that allows **10K+** warehouse workers to take operational commands from mobile applications and communicate with the **Core Warehouse Database**.
- Implemented a highway toll system using **Qt**, **OpenCV**, and **Caffe** for recognizing vehicle plates at highways entrance for automatic payment which achieved **97%** accuracy in **NEUSoft Enterprise Database**.

PROJECTS EXPERIENCE

Tartan Smart Home

Mar. 2020 - May 2020, Carnegie Mellon University, Pittsburgh, PA

- Led a 5-people group to build and test a smart home application with **RESTful APIs** based on **Spring Boot** **Gradle**, **MySQL**, **MongoDB** and **Apache JMeter**. Setup and manage **CI/CD** strategy using **Jenkins**, **SonarQube** and **Docker**.
- Designed and implemented an **A/B-testing** infrastructure using **Launchdarkly** and monitored it on **Grafana**.

E-Commerce System

Jan. 2020 - Mar. 2020, Carnegie Mellon University, Pittsburgh, PA

- Built an online-shopping service on **AWS EC2** with **AWS RDS** using **JavaScript**, **Node.js**, **Express.js**, **MySQL**, and **Artillery**.
- Used **AWS EC2 load balancer** and **RDS database replica** to improve the **performance**, **availability** and **scalability** of the system.