Da Huo

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SUMMARY

A graduate student with 5 years' study in computer science. I have helped to build large-scale applications during my research and internship experiences. Familiar with most modern algorithms and data structures. Also have 3 years of leadership experience as TA.

EDUCATION

Brown University, Providence RI — Program Start: August 2019
Master of Science, Computer Science — Expected Graduation: May 2021

Rutgers University, New Brunswick NJ — May 2019
Bachelor of Science, Computer Science — **GPA: 3.85/4.00**
Awards and Honors: Phi Beta Kappa, Magna cum laude — Major GPA: 4.0/4.0

TECHNICAL SKILLS

- Programming languages: Java, Python, C, C++, SQL, HTML, CSS, JavaScript, X86 Assembly
- Framework and tools: Node.js, Selenium, MySQL, InfluxDB, openHAB, LaTeX, Git

EXPERIENCE

Teaching Assistant – Design and Analysis of Algorithms — August 2019 – Present
Brown University, Department of Computer Science — Providence, RI

- Build and maintain the course website. Prepare lecture slides, sample code, and other supplemental materials
- Hold weekly office hours as well as grading programs and written assignments.

Summer Research Intern (Machine Learning and IoT Blue Team) — May 2018 – August 2018
WINLAB, Rutgers University — North Brunswick, NJ

- Designed an end-to-end security-conscious IoT framework using openHAB Framework, InfluxDB Database, TI CC2650 Sensor tags, and Z-wave devices
- Used various regression models to predict future data based on past data and achieved anomaly detection of our IoT system
- Detected the process of making coffee by monitoring the gradient of temperature data from coffee in real-time.

Teaching Assistant – Computer Application for Business — September 2017 – May 2019
Rutgers University, Department of Computer Science — Piscataway, NJ

- Taught two 55-minute classes on HTML, JavaScript, and Excel per week as well as held weekly office hours and review sessions
- Proctored 3 exams throughout each semester and graded students' assignments and exams

Software Engineer, Intern — June 2017 – August 2017
China Science TopChance Big Data Corp Ltd. — Taiyuan, Shanxi, China

- Performed Java unit testing on internal utility tools.
- Wrote internal documentation on how to use SonarQube, Swagger API and other software for the team.
- Used an open source Java library – docx4j to Auto-generate Microsoft Word document that matches the required format.

RESEARCH

Research Assistant – Extending Universal Semantic Tagging — September 2018 – Present
Rutgers University, Department of Computer Science — Piscataway, NJ

- Project goal is to produce a large database that provides semantic properties of words.
- Preprocessed data from the Parallel Meaning Bank(PMB) Project. Collected statistics such as words count for each semantic tag.
- Produced semantic tag vectors from the PMB project and predicted semantic tags of English words by computing the mean of semantic tag vectors of k Nearest Neighbors which are computed using data from Stanford University's GloVe Project.

Research Assistant – MicroMVP (micro multi-vehicle platform) — February 2018 – May 2018
Rutgers University, Department of Computer Science — Piscataway, NJ

- Implemented a real-time multi-agent navigation algorithm by applying the concept of Reciprocal Velocity Obstacle (RVO)
- Designed an algorithm to resample robots' path points with uneven density to uniform density while preserving collision-free.

PROJECTS

Fast Trajectory Replanning — Language: Python

- Generated a maze/corridor-like structured grid world of size 101*101 using maze generation algorithms (DFS maze generation).
- Implemented Repeated Forward A*, Repeated Backward A* and Adaptive A* algorithms to achieve fast trajectory replanning.

Basic Data Sorter – Server/Client — Language: C

- Designed the search request/respond protocol for server and client in C socket programming.
- Implemented a multi-threaded client C program to parse all CSV files under a given directory and send the data to server.
- Implemented a multi-threaded server C program to sort data sent from client program using merge sort and send the result back.