Jiahao Guo

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Education

University at Buffalo | Computer Science BS | Sophomore — *Sep 2020 – 2024(Expected)*
GPA: 3.748 — *Buffalo, NY*

Experiences

FunStone Network (China) | *Software Engineering Part-time | May 2018 – July 2019*

- Led the project for a distributed bot-account management system in Node.JS that could handle over 500 logged-in bot accounts sessions at the same time.
- Developed the backend of an e-shop website that sells virtual items and served over 1000 customers. This system used MySQL locks to ensure data consistency and avoid concurrency issues, and Redis for caches.

Projects

Text Chat Application

Technologies: C++, TCP Socket Programming

- Developed the client and server components of a text chat application, consisting of one chat server and multiple chat clients over TCP connections. The clients and server will encode the message in a certain structure and send them through the TCP socket.
- Implemented a P2P file transfer under TCP, the client sending the message will firstly send a TCP packet to the server fetching the information (ex. ports) of the client who receives the file, then encode the file in certain structure and sends to the other client.

Company-Type Predictor

Technologies: Python, NumPy, Scikit-Learn, SVM model, Pandas

- Implemented and trained several SVM classifiers (including normal SVM, Poly Kernel SVM) to predict the type of the company by its description (word frequency), using the CNAE-9 data set and several python libraries, such as Pandas, **Scikit-Learn**, NumPy.
- Used PCA to reduce the significant amount of input features and finding out the outcome and performance is good using reduced features in the SVM models by several experiences.

Ecommerce Website (Full Stack)

Technologies: TypeScript, Koa, MySQL, JWT, Vue.JS, NGINX, Redis

- Architected a scalable e-commerce website backend, it can use Docker to create multiple backend instances for scale purposes.
- Built the checkout system that can handle multiple discounts and multiple taxes.
- Built front-end pages (product description, login/register page) using Vue.JS and Vuetify.

FIRST Tech Challenge | *Co-Captain, Programmer*

- Led a team to build a robot to finish specific tasks (such as collecting cubes, hang itself up in the rack) and won the Best Design Award in the NYC Citywide Competition in 2019.
- Used OpenCV to detect cubes and programmed a robot to grab specific types of cubes by itself.

Skills

Language: C++, JavaScript, Java, Python
Web: Node.JS, Vue.js, jQuery
Framework: Pandas, NumPy, SciPy, Scikit-Learn, Koa.js, Vue.js
Database: MySQL, MongoDB, Redis