Qiangqiang Liu

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EDUCATION

Duke University **Durham, NC**

Master of ECE, Software Engineering track 8.2021 – 5.2023

University of Liverpool **Liverpool, UK**

Bachelor of Computer Science, **GPA**: 3.96/4.0 9.2019 – 6.2021

SKILLS

- **Programming Languages**: Java, C/C++, Python
- **Technologies/Tools**: Linux, Git, Emacs, MySQL, Postgres, Docker

PROFESSIONAL EXPERIENCE

Software Intern, *JUNIPER NETWORKS*, *Sunnyvale, CA* 05.2022 – 08.2022

- Implemented a network interface testing tool to verify the integrity of Packet Forwarding Engines on Juniper SRX firewalls.
- Examined this tool on 8 types SRX testbeds and automated this process with Python and Expect scripts.

PROJECTS

Mini UPS: *Django, Postgres, Google Protocol Buffer* 04.2022 – 05.2022

- Built a shipping website with **Django** that can deliver packages ordered from Mini Amazon of another group.
- Designed protocols using **Google Protocol Buffer** to communicate with Mini Amazon website through sockets.
- Emulated at-least-once and at-most-once messaging semantics with SEQ and ACK number to avoid message failures.

Risk Game: *JavaFx, MVC, Mockito, CI/CD* 02.2022 – 05.2022

- Wrote a Risk like board game according to the requirements proposed and changed by TA as a customer.
- Built a back-end game server that supports multi-client connections and multi game rooms.
- Implemented client UI with **JavaFX** and **MVC** design pattern to resolve coupling of game logic and view.
- Wrote testcases with **Mockito** to simplify the development of test by mocking external dependencies.
- Setup GitLab **CI/CD** to automate the build, test and deploy process after each commit or merge.

Ride Sharing Platform: *Python*, *Django, Postgres, Bootstrap* 01.2022 – 02.2022

- Built a web application for users to request, drive for and join rides with the functionalities including search a ride, request a ride, join a ride, cancel a ride, and send notify emails.
- Created a mobile-friendly front-end UI by using **Bootstrap5**, **HTML**, **CSS**, and **JavaScript**.
- Designed and implemented the back-end with **Django** framework and **Postgres database**.

Monte Carlo Visualization: *HTML, CSS, JS, Jekyll* 04/2021 – 06/2021

- Implemented Monte Carlo Algorithm to measure the volume and area of irregular 2D and 3D shapes by random sampling points in the shape.
- Created a **front-end** website with **HTML**, **CSS**, **JavaScript** to visualize the process, implemented interactive geometries with **JSXGraph**, allowing the user to define their own shape.
- Hosted this static service on **GitHub Pages** and blogged with **Jekyll**.

Face Mask Detection: *Google Cloud Platform, AutoML, Kubernetes* 09.2020 – 11.2020

- Trained a facemask detection model on **Google Cloud Platform** based on 1,000+ facemask pictures collected with web-crawling technology**.**
- Created a web backend with the well-trained model to provide face mask detection service.
- Utilized **Docker** and **Kubernetes** to containerize the service and deploy it across 3 different google servers, which can support 1000+ requests per second.

Awards

Merit Scholarship of University of Liverpool 06/2019

University Academic Excellence Award of XJTLU 06/2018