Ying Zhang

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EDUCATION

Northwestern University **Evanston, IL**

Master of Science in Computer Science Expected: Dec 2021

Worcester Polytechnic Institute **Worcester, MA**

Bachelor of Science in Computer Science Aug 2016 - Dec 2019

SKILLS

Operating Systems: Familiar with macOS, Windows, Linux (Kali), understand the basic principles, and simple implementation.

Programming Language: Java, Javascript, Python, C++, R, Arduino, Matlab

Front-end framework and database: MySQL, MongoDB, Vue, Node.js, Grafana

Other: Git, WordPress, AWS cloud, HTTP, TCP/IP

WORK EXPERIENCE

TuSimple. Internship at the R & D department. Beijing, China. **May 2019 - Aug 2019**

- Connected self-driving trucks to a customized and sustainable IoT platform, which can receive data from the trucks and upload the data to the cloud for monitoring and alerting.
- Research the existing Internet of Vehicles platform and analyze its functions, and customize an IoT platform exclusively for autonomous driving trucks.
- Responsible for building a message broker through the MQTT protocol and transferring the data to the database and the cloud for data analysis and visualization.

PROJECTS

Bomberman AI. **January-March 2019**

- Worked with a team of three to code an AI capable of playing the game Bomberman in different situations with the implementation of A star as the basic algorithm.
- Applied machine learning techniques like Reinforcement Learning and Q-learning to optimize the pathfinding process of the agent.

Lag Can Kill. **August 2018 -Jan 2019**

- Worked in a pair to research and experiment on the latency's effect on players' quality of experience.
- Used GameMaker to build a dodging game to isolate users' responses to latency.
- Applying heart rate monitor and EmotionDectionAssest to test players' conditions.

Construction and Detection of a Stealthy Botnet. **October-December 2018**

- Run python script on each infected machine. The script makes use of the NetFilterQueue library to intercept incoming and outgoing packets then modify them using the Scapy library. The packet is then given back to NetFilterQueue and sent to its destination.