KUNYANG XIE (KYRIE)

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EDUCATION

University of Waterloo, Waterloo, ON, Canada — Sep. 2021 - Dec. 2022
MEng in Software Engineering, GPA: 91/100

Univ. of Electronic Sci. and Tech. of China, Chengdu, Sichuan, China — Sep. 2017 - Jun. 2021
BEng in EE, GPA: 3.8/4

University of Glasgow — Sep. 2017 - Jun. 2021
BEng in EEE with First Class Honors, GPA: 19.2/22

INTERNSHIP

Embedded System Intern — Mar. 2021 - May. 2021
Tsinghua University - Sichuan Energy Internet Research Institute — *Chengdu, China*

- Built an i3-architecture 3D printer, used **Solidworks** to design the mechanical structures, **STM32** for the control unit, and **Altium Designer** to design the PCBs of peripheral circuits.
- Designed a connection component between the screw and the frame to improve the stability of Y-axis motion.
- Responsible for the code design of the stepper motor drive (DRV8711), and the PCB component selecting, wiring and soldering.

PROJECTS

Turbo Wallet - Money Management App [GitHub] — Jan. 2022 - Apr. 2022

- Led the back-end development to built a web server based on **Express.js** invoking **RESTful APIs** to respond the requests from the front-end.
- Applied Non-relational database **MongoDB** to manage the income and expenditure records of users.
- Implemented **JWT** key weight scheme to obtain user information and achieve secure login function.

Security Cameras Installation System [GitHub] — Sep. 2021 - Dec. 2021

- Used Python to generate a map contains roads and intersections to simulate a city's traffic, and employing the Dijkstra algorithm by C++ to find the shortest path.
- Solved the **Vortex Cover** problem by using **CNF-SAT** to simulate the whether the installation of cameras can cover all the city streets.
- Design and implemented multi-threading and parallel processing to run more efficiently.

Pedestrian Re-Identification based on Deep Learning Methods [GitHub] — Jan. 2021 - Jun. 2021

- Designed a deep learning model based on **PyTorch** framework, which employed **ResNet-50** as pedestrian's feature extraction method and **Tri-Hard** Loss as metric learning method.
- Created the **UESTC ReID Dataset**, trained the model in **Market-1501** dataset for 60 epochs, and tested the model in both dataset.
- The mAP and rank@1 index of the model achieve **74.6%** and **80.0%** respectively for UESTC ReID Dataset.
- This project was awarded the second-class excellent graduation project of UESTC.

SKILLS

Languages Java, Python, JavaScript, C/C++, MATLAB, Verilog, LaTeX
Frameworks Git, Node.js, Express, MongoDB, Mocha, PyTorch