Tianyang Shi

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Ann Arbor, MI

EDUCATION

University Of Michigan Aug 2021
Master of Science in Electrical and Computer Engineering Ann Arbor, MI
Major in Embedded Systems; GPA 3.67/4.0

Tongji University & Politecnico di Torino Sep 2017 - Jul 2021
Bachelor in Computer Engineering Shanghai, China
Sino-Italian dual-degree program; GPA 4.34/5.0

SKILLS

- **Skills:** C/C++, Python, PyQt, Java, HTML/CSS/Javascript, PCB design, Matlab/Simulink, Embedded Software
- **Languages:** Mandarin (native), English(fluent), Italian(conversational)

INTERNSHIP EXPERIENCE

Aviage Systems Aug 2020 - Dec 2020
Engineering Intern, Technology Readiness Shanghai

- Based on Node.js and Electron, I developed a software with the function of invoking camera, recording voice and voice-text conversion. This software was designed for digitalizing and standardizing the procedure of airplane inspection. I was also in charge of purchasing the devices for this project.

Shanghai Industrial Control Safety Innovation Technology Co. Mar 2021 - Apr 2021
Engineering Intern, Department of Information Security Shanghai

- Participated in the verification of Information Security Inspection Toolbox by developing application on encryption chips based on SM2 algorithm and UART

RESEARCH EXPERIENCE

Finger Pulse Detection Gloves Based on PPG Mar 2021 - Jul 2021
Undergraduate Thesis, Tongji University Shanghai

- Programmed on a STM32 Microcontroller to collect pulse signal and communicate with PC
- Developed a software with PyQt5 to display the pulse wave and heart rate in real-time

Automated Guided Vehicle Based on Lidar & SLAM Mar 2019 - Apr 2020
Team Member, Intelligent Vehicle Competition Lab of Tongji University Shanghai

- Designed and implemented the AGV positioning and navigation technology based on lidar and SLAM with the support of the robot operating system
- Applied the PID control to regulate the brushless DC motor with the feedback function for speed and position

NXP Intelligent Vehicle Competition Oct 2018 - Jun 2019
Team member, Intelligent Vehicle Competition Lab of Tongji University Shanghai

- Designed a PCB with Altium designer as the interface between the computer and the motors
- Developed the embedded program communicating with the computer by UART, and sending control signal to the motors.

RoboMaster Robotics Competition Oct 2018 - Aug 2019
Member in Embedded System Group, Tongji University Shanghai

- Developed the embedded software of three robots and debugged the robots, as well as designed and maintained the electrical circuits of the robots
- Used a timer to control the multi-task pseudo-real-time operating system based on the stm32f4 MCU

COURSE PROJECTS

Cat Litter Box+ Sep 2021 - Dec 2021

- Built functional cat litter box equipped with motion sensor, RFID reader and wifi module to monitor the duration and frequency of cats' excretion behavior. The data will be upload to a online database.

The Impact of Different Network Types and Parameters on Deep Learning Jul 2020 - Aug 2020

- Trained deep network models, collected and analyzed data;
- Applied the idea of controlling variables, analyzed the advantages and disadvantages of networks of full connection, vgg, and resnet, as well as the effects of parameters on training time, memory usage, and judgment accuracy

Design of Minimum Phase System Controller Based on Python Apr 2020 - Jul 2020

- Built the mathematical model of the control system with python code, automatic calculation and analysis, including zero-pole cancellation, compensation phase margin, transfer cutoff frequency;
- Developed a simple interactive interface for the model with Tkinter and simplified the operation