

Tianyang Shi

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Ann Arbor, MI

EDUCATION

University Of Michigan	Sep 2021 - May 2023
Electrical & Computer Engineering Master	Ann Arbor, MI
Major in Embedded Systems	
Polytechnic University of Turin	Oct 2020 - Aug 2021
Computer Engineering Bachelor	Turin, Italy
Tongji University	Oct 2017 - Aug 2021
Electrical Engineering Bachelor	Shanghai, China
Sino-Italian dual-degree program; GPA 4.34/5.0	

HONORS & AWARDS

Excellent Graduate of Shanghai	July 2021
Excellent Student of Tongji University	Jan 2021
First Class Scholarship of Tongji University	Sep 2020 & Sep 2019
First Prize, NXP Intelligent Vehicle Competition	Jun 2019
Second Prize, RoboMaster Robotics Competition	Aug 2019

INTERNSHIP EXPERIENCE

Aviage Systems	Aug 2020 - Dec 2020
Engineering Intern, Technology Readiness	Shanghai
<ul style="list-style-type: none">Evaluated the demand of current maintenance process' digitalization;Analyzed the specific framework for the development of the software platform, configured the development environment, and learn how to use the software framework;Developed the data interface between Bluetooth peripherals (headphones, cameras, microphones) and the software platform running on the host, and learned the front-end development framework including HTML, CSS, and Javascript	
Shanghai Industrial Control Safety Innovation Technology Co.	Mar 2021 - Apr 2021
Engineering Intern, Department of Information Security	Shanghai
<ul style="list-style-type: none">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
<ul style="list-style-type: none">Evaluated and selected sensors, microcontrollers and wireless modules for the hardware design; Wrapped up the hardwares into the form of a glove;Programed on a STM32F1 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
<ul style="list-style-type: none">Designed and implemented the AGV positioning and navigation technology based on lidar and SLAM with the support of the robot operating system, accepted by National Undergraduate Innovation and Entrepreneurship Training Program of the Ministry of Education of P.R.China;Applied the PID control to regulate the brushless DC motor with the feedback function for speed and position;	

- Further analyzed the motion instructions sent by the on-board computer through the single-chip microcomputer program to achieve more complex motion

NXP Intelligent Vehicle Competition

Oct 2018 - Jun 2019

Team member, Intelligent Vehicle Competition Lab of Tongji University

Shanghai

- Selected the chips and components to design the circuit schematic diagram of the module, designed the printed circuit board of the module using Altium Designer, and made the circuit board by welding the components;
- Developed the MCU program, and verified the function of the module by signal acquisition, designed the entire circuit system of the car, and arranged the power source and signal cables;
- Assisted other team members to run the ROS robot operating system in Linux on the on-board computer to control the car's motion and tune parameters

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 single-chip microcomputer, established the embedded system with C;

COURSEWORK

The Impact of Different Network Types and Parameters on Deep Learning

Jul 2020 - Aug 2020

- Trained AI network models (25,000 pictures), 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

The Design of Frequency Measurement Based on AT89C52

Aug 2020 - Sep 2020

- Applied the timers, serials, interrupts and other common modules and concepts of single-chip microcomputer, and code C52 MCU programs;
- Built the circuit with Proteus, imported the MCU program into the simulation system, and combined the serial port debugging software to complete the debugging of the MCU program

Design of Minimum Phase System Controller Based on Python

Apr 2020 - Jul 2020

- Realized 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

SKILLS, CERTIFICATIONS & OTHERS

- **Skills:** C/C++; Matlab; Simulink; Python; Javascript; Java; Altium Designer;
- **Languages:** Mandarin(Native); English(Proficient); Italian(Conversational); French(Elementary)
- **Activities:** Secretary of Sports Department, Student Union of Tongji University
- **Interests:** Guitar; Soccer; Aerial Photo with Drone