

Xinrui Zhou

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Education

Oregon State University

Corvallis, OR

Bachelor of Science (expected)

Sept. 2019 – Jun. 2023

- Major: Electrical & Compute Engineering
- Minor: Computer Science
- Overall GPA: 3.92/4.00
- Related Courses: Signal and Systems I & II, Digital Signal Processing, Digital Image Processing, Machine Learning & Data Mining

Jinan University

Zhuhai, China

Transferred to Oregon State University from Fall 2019

Sept. 2017 – Jun. 2019

- Specialty: Electronic Information Science and Technology

Paper

- Cheng-Che Shih, Xinrui Zhou, Thanh Nguyen. "People Counting System Using mmWave MIMO Radar with 3D Convolutional Neural Network", accepted by *The 2023 IEEE 97th Vehicular Technology Conference*

Research Experiences

Research Projects Under the Supervision of Dr. Thanh Nguyen

Corvallis, OR

Volunteer Student Research Assistant

Jan. 2022 – Jan. 2023

People Counting System

Jun. 2022 - Jan. 2023

- Collected data through sensors, determined the number of people, and tracked them.
- Decoded and processed the initial data.
- Helped to build the 3D CNN model.
- Wrote scripts to run different optimization algorithms.
- Collected literature for a thesis and compiled the thesis.

Eliminate Noise Generated by Masks on Audio Transmission

Apr. 2022 - Jun. 2022

- Used MATLAB to align the signals of several groups of data with and without masks.
- Learned the LMS algorithm, neural networks, and the use of Pytorch.

Using Cameras to Count and Classify People

Jan. 2022 - Jun. 2022

- Counted the number of people in a specific area by collecting information such as clothes and faces of people.
- Processed the initial data, converted the video into pictures, and synthesized images with four corners.

Weekly Thesis Seminar

Jan. 2022 - Present

- Explained the research purpose and related theories to group members by turn.
- Studied thesis on "Recognition-aware Learning for Image Compression" and "Research on Noise Reduction Algorithm Based on Combination of LMS Filter and Spectral Subtraction."

Project Experiences

Mobile 3D Printing Robot – Maixduino, Python

Corvallis, OR

Participant, supervised by Prof. Donald Heer and Dr. Matt Campbell at OSU

Sep. 2022 – Present

- Used Maixduino built-in camera and Intel Realsense to capture and identify certain targets.
- Designed the logic behind the targets recognition.
- Collaborated with the Lidar block to complete the integration of computer vision and pass to movement block.
- Made the document, videos, and Expo poster.

Electronic Pet Door Design – Arduino, LTspice

Corvallis, OR

Participant, instructed by Lecturer Brandi Coker at OSU

Jan. 2022 – Feb. 2022

- Designed and adjusted sensors to sense the proximity of pets and tested LED screens to indicate the door lock status.
- Used 3D printing to design the housing for the circuit board.
- Made posters, explained and demonstrated the product to viewers at the Expo.

Doorbell Intercom System – LTspice, Arduino

Corvallis, OR

Participant, supervised by Prof. Donald Heer at OSU

Nov. 2021 - Dec. 2021

- Designed three amplifiers through LTspice simulations.
- Connected the button with Arduino, and emitted a certain tone from the speaker when pressing the button.
- Outputted the content of the microphone.

PLC Data Collection Platform – C#

Hefei, China

Project Assistant for Prof. Yong Wang from Univ. of Sci. and Tech. of CN

Jun. 2021 – Oct. 2021

- Modified measuring points and equipment information, revising the offset to prevent the starting point from being 0.
- Changed the type of read-write data of digital points and fixed incorrect data correspondence in the testing phase.
- Made technical plans for the software and wrote research reports on the communication protocol

Awards & Honors

Honor Roll (from Fall 2019 to Spring 2022)

2020 – 2022

Oregon State University

Continued Success Scholarship

2020 – 2022

Oregon State University

Technical Proficiency

Languages: Chinese (Native), English (Advanced)

Programming: Python, C/C++, System Verilog, LaTeX

Software Skills: Git, ModelSim, Quartus Prime, LTspice, VS Code, Visual Studio, Atmel Studio, Arduino