

# SIZHE WEI

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## 🎓 EDUCATION

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**Shanghai Jiao Tong University (SJTU)** Sep 2021 – Mar 2024 (Expected)

*Recommending Exam-Free Postgraduate Candidate*, Advisor: Prof. Ya Zhang  
Cooperative Medianet Innovation Center

**Shanghai Jiao Tong University (SJTU)** Sep 2017 – Jun 2021 (Expected)

*B.Eng Student*, GPA: 84.845 / 100, Advisor: Prof. Ya Zhang & Prof. Wenjun Zhang  
Zhiyuan Honors Program of Engineering (Elite program for Top 5% students)  
Information Engineering, Depts. Electronic Engineering

**National University of Singapore (NUS)** Jun 2019 – Jan 2020

*Research Intern*, Advisor: Prof. Bingsheng He & Dr. Zeyi Wen

## ★ RESEARCH INTERESTS

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To answer the question of "how can I trust AI", I focus my research interests in Explainable Artificial Intelligence (XAI), Machine Learning, and Computer Vision, especially on object detection and image processing. I am also passionate about solving challenging problems using Mathematics and Codes.

## 🏢 RELATED PROJECTS

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**Video interaction instance based on FreeSwitch** Apr 2020 – Jun 2020

Course Project for EE450: Multimedia Communication Systems and Applications

- Built a video interaction system based on FreeSwitch interactive platform and multiple clients.
- Completed functions of video conference, video live broadcast and video on demand.
- Finished the web client based on webrtc, jssip and mobile client based on xefiro, which realized the function of adjusting bit rate and video conference layout.

**MAUC Explainable AI System** Jun 2019 – Feb 2020

Zhengyi Li, Zeyi Wen, **Sizhe Wei**, Bingsheng He

- Designed a system which uses simple machine learning models such as weighted k-means to approximate the unexplainable models.
- Supports 4 interpretation methods including Prototype, Feature influence, Feature contribution, and Counterfactual explanation.
- Got excellent results on some open-source datasets. The result of our work is under revising.

**AI One Image** Dec 2019 – Jan 2020

Project for Google Machine Learning Winter Camp, Shanghai

- Designed a demo named AI One Image, which contributes to matting, auto-beauty and style transfer.
- Completed the project using PyTorch based on U-Net, VGG, and generative CNN.
- Won the prize for People's Choice of Google Machine Learning Winter Camp.

**Medical 3D Voxel Classification** Oct 2019 – Dec 2019

Course Project for EE369: Machine Learning

- Implemented a voxel classifier using PyTorch based on Densenet.
- More than 500 patients' 3D CT scans and manual masks are contained.
- The AUC on test dataset is above 0.70.

## Stair Climbing Robot Car

Jun 2018 – Jul 2018

Course Project for ES004: Electronics System Design Based on Android System

- Implemented project of auto-stair-climbing robotic car which is divided into two parts: controlled end (robot car) and controller end (mobile phone).
- Used C/C++ to implement the robot car, which can climb stairs based on MCU MSP430<sup>TM</sup>.
- Finished the controller of an Android application using MIT App Inventor.

## 🏆 HONORS AND SCHOLARSHIPS

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### Zhiyuan Honors Scholarship

Top 5%, CN ¥5000, Zhiyuan College, Shanghai Jiao Tong University                      2020, 2019, 2018, 2017

### Academic Excellence Scholarship (Third-Class) of Shanghai Jiao Tong University

Top 10%, CN ¥500, Shanghai Jiao Tong University    2020, 2019, 2018

### People's Choice of Google Machine Learning Winter Camp

China Talent & Outreach Program Team, Google Information Technology (China) Company Limited                      2020

### Meritorious Winner, 2018 Interdisciplinary Contest In Modeling (Problem D)

Consortium for Mathematics and Its Applications    2018

## ✎ TEACHING SERVICES

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### CS 157: Thinking and Approach of Programming (Honors), Fall 2020

Teaching Assistant of A/Prof. Tongzhen Zhang, Shanghai Jiao Tong University                      Sep 2020 - Jan 2021

### CS 158: Data Structures (Honors), Spring 2020

Teaching Assistant of A/Prof. Yuquan Chen, Shanghai Jiao Tong University                      Feb 2020 - Jul 2020

## ⚙️ SKILLS

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- Programming languages: C/C++, Python, MATLAB, HTML/CSS, Java
- Tools & Frameworks: FFMPEG, x265/x264, GPAC, Nginx, L<sup>A</sup>T<sub>E</sub>X, Git, VHDL
- Platforms: PyTorch, Linux/Unix, LabVIEW, FreeSWITCH, WebRTC
- Languages: English, Mandarin (Native)

*Last Update: December 11, 2020*