

# SIZHE WEI

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## 🎓 EDUCATION

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### Shanghai Jiao Tong University (SJTU), Shanghai, China

Sep 2017 – Jun 2021

*Bachelor of Engineering* in Dept. Electronic Engineering.

School of Electronic Information and Electrical Engineering.

Zhiyuan Honors Program of Engineering (An elite program for Top 5% students).

GPA: 84.819 / 100

## ★ 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. I am also passionate about solving challenging problems using Mathematics and Codes.

## 🏢 RELATED EXPERIENCES

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### Xtra Computing Group, National University of Singapore

Jun 2019 – Jan 2020

*Research Intern* Under the supervision of Prof. Bingsheng He and Dr. Zeyi Wen

- In order to explain some unexplainable models in artificial intelligence, we designed a system which uses simple machine learning models such as weighted k-means to approximate the unexplainable models.
- Our system supports 4 interpretation methods including Prototype, Feature influence, Feature contribution, and Counterfactual explanation.
- The system gets excellent results on some open-source datasets. The result of our work has been submitted to KDD 2020.

### Google Machine Learning Winter Camp, Shanghai

Jan 2020

*Member* Selected as one of 100 participants nationwide for Google ML Winter Camp.

- The camp is a programming competition run by Google Information Technology (China) Company Limited.
- We designed a demo named AI One Image, which contributes to matting, auto-beauty and style transfer. The project was completed using PyTorch based on U-Net, VGG, and generative CNN.
- Our project won the prize for People's Choice. And we have open-sourced our code, which can be used on local devices.

## 📁 COURSEWORK PROJECTS

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### Medical 3D Voxel Classification

Oct 2019 – Dec 2019

*Group Leader* Under the supervision of Dr. Bingbing Ni

- I used PyTorch to implement a voxel classifier based on Densenet.
- The dataset contains 500 patients' 3D CT scan and manual masks.
- The AUC on test dataset is above 0.70.

### Stair Climbing Robot Car

Jun 2018 – Jul 2018

*Group Leader* Under the supervision of Lecturer. Shiwen Zhang

- The project is divided into two parts: Controlled end (robot car) and Controller end (mobile phone).
- We used C/C++ to implement the robot car, which can climb stairs based on MCU MSP430™.
- And the controller was finished as an application on Android, which was implemented using the visual programming language on MIT App Inventor.

## RELATED COURSES

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**Mathematics Foundation:** Mathematical Analysis(H), Physics(H), Linear Algebra(A), Discrete Mathematics(A), Probability and Statistics(A), Linear and Convex Optimization(A)

**Professional Courses:** Thinking and Approach of Programming(A), Data Structures and Algorithms(A+), Electronics System Design Based on Android System(A), Analog Electronic Technology(A-), Signals and Systems(A), Machine Learning(A), Principles of Wireless Communication and Mobile Networks(A+)

## HONORS AND SCHOLARSHIPS

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

Consortium for Mathematics and Its Applications.

2018

### **Zhiyuan Honors Scholarship of Shanghai Jiao Tong University**

Top 5%, CN ¥5000, Zhiyuan College, Shanghai Jiao Tong University.

2017, 2018, 2019

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

Top 10%, CN ¥500, Shanghai Jiao Tong University

2018, 2019

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

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

2020

## TEACHING

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### **CS 158: Data Structures (Honors)**

*Teaching Assistant:* Shanghai Jiao Tong University, Shanghai, China

Feb 2020 - Jul 2020

## SKILLS

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- Programming: Python, C/C++, MATLAB, Verilog HDL
- Tools & Frameworks: Linux/Unix, L<sup>A</sup>T<sub>E</sub>X, Git, PyTorch
- Languages: English, Mandarin (Native)
- Courses in proceeding:
  - MIT: Missing Semester IAP 2020
  - Stanford: Algorithms Specialization, on coursera
  - deeplearning.ai: Deep Learning Specialization, on coursera

## STUDENTS ACTIVITIES

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- SJTU ChuCai Program member (Honored to be selected as one of 45 students of Class 2021)
- SJTU Baidu<sup>®</sup> club member
- Zhiyuan college basketball team member

*Last Update: July 3, 2020*