

# Cao Ruixiang

| caorx@shanghaitech.edu.cn  
Shanghai China

## SUMMARY

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Undergraduate students majoring in EE. Experienced in embedded system and hardware development.

## EDUCATION

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**Shanghai University of Science and Technology** Sep 2018 - Jun 2022  
Electronic Information Engineering Bachelor School of Information Shanghai

## Organization and community experience

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**Shanghaitech University MARS Lab** Sep 2020 - May 2022  
Hardware engineer Shanghai  
Responsible for the design and manufacture of the experimental lighting devices

**Sandbox Maker Space** Nov 2018 - May 2022  
Founder Shanghai  
Founded the ShanghaiTech University Sandbox Maker Space, engaged in the development and design of creative electronic projects. 20+ projects has been finished in this maker space.

**ShanghaiTech University LIMA Lab** Sep 2021 - May 2022  
Quadruped robot developer Shanghai  
Development of quadruped robot based on MIT mini Cheetah. Researching on development better gaits for quadruped robot with deep learning

## Major project experience

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**Filament LED Wall** Oct 2020 - Nov 2021  
Independent project Shanghai

### *Project Discription:*

- "FilaWall" is a portable art device that can capture the movement of your body and display it on a screen consists of hundreds of filament LEDs.

### *My Role:*

- Circuit design & PCB design
- Programming using Python and C++
- Mechanical design

**MARS Relighting System** Apr 2021 - Nov 2021  
Hardware designer Shanghai

### *Project Discription:*

- A system consists of hundreds of RGBW lights projecting predefined lights on objects to relight it in virtual environment

### *My Role:*

- Circuit & PCB design

- Appearance & Mechanical design
- Programming using C

### **Light Field Stage**

Sep 2020 - Mar 2021

Hardware designer

Shanghai

#### *Project Discription:*

- A high precision model reconstruct system consists of more than 100 LEDs and 23 cameras. Used to project predefined patterns on objects to reconstruct 3D models of it.

#### *My Role:*

- Hardware architecture design
- Programming using Python and C++ and
- Circuit design & PCB design using Kicad
- Mechanical design using Solidworks

### **The Last (Unity Game)**

Apr 2021 - Jun 2021

Main programmer

Shanghai

#### *Project Discription:*

- An FPS game made with Unity.

#### *My Role:*

- Programming logics of the game with C# including player, enemy, interaction, sound effect and so on
- UI, map, environment design
- Player and enemy animation

### **SKILLS LIST**

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- Embedded system programming (stm32, esp32, Arduino)
- 3D modeling using Solidworks, Fusion360
- Circuit & PCB design using Kicad
- Game development on Unity using C#
- Programming with Python, C/C++
- 3D printing and CNC machining