# Jianxiong **Cai**

STUDENT, COMPUTER SCIENCE, SHANGHAITECH UNIVERSITY

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## Education

**ShanghaiTech University**                                    *Shanghai, China*

UNDERGRADUATE IN COMPUTER SCIENCE                              *Sep. 2015 - PRESENT*

- Major in Computer Science
- Got university scholarship in 2016

**University of California at Berkeley**                       *Berkeley, U.S.A*

SUMMER SESSION AT U.C BERKELEY                                 *July 25,2016 - Aug, 22, 2016*

## Skills

| | |
|---|---|
| **Programming Language** | ROS, C/C++, Rust, Python3 |
| **Research Interest** | SLAM, Computer Vision, Navigation, Autonomous Mobile Robots |

## Research Projects

**STAR-ABB Joint Project (SLAM + Auto-navigation + Arm manipulator)**     *Shanghai, China*

ABB GROUP, SHANGHAITECH AUTOMATION AND ROBOTICS LAB(STAR LAB)             *Oct, 2017 - Now*

- With ClearPath Husky ground vehicle and ABB dual-arm manipulator, we successfully built a robot that can perform auto-navigation to press the target button.
- In this project, I mainly focused on SLAM, auto-navigation and network communication.
- For more details, visit my personal website.

## Course-work Projects

**3D panorama with line-tracking approach**                    *Shanghai, China*

SLAM, LINE-BASED 3D RECONSTRUCTION, 3D-PANORAMA                *2017 FALL*

- We implemented a full SLAM pipeline for 3D panorama with line-based approach
- I was in charge of line-merging, line-tracking and the SLAM pipeline.

**Gambody: A game with computer vision and body tracking**    *Shanghai, China*

COMPUTER VISION, NON-RIGID BODY TRACKING                       *2017 FALL*

- We built a game with single low-cost RGB camera, that can recognize and keep tracking human body.
- I was in charge of bounding-box extraction with RGB image, patch matching and human-body tracking
- Video demo is at github: DataCorrupted/GamBody_src

**System-call level sandbox**                                  *Shanghai, China*

RUST, OPERATING SYSTEM, LXD                                    *2017 Spring*

- Implement a system call level sandbox for Intel x86-64 architecture, preventing untrusted program from making dangerous system call like setuid.
- Implement the sandbox to allow untrusted program only be able to connected to certain IP address.

## Experience

**Teaching Assistant**                                         *Shanghai, China*

SHANGHAITECH UNIVERSITY                                        *2017 - 2018*

I am undergraduate teaching assistant for the following courses:

SI100B: Introduction to Information Science and Technology, Spring 2017
- SI100C: Introduction to Computer Science, FALL 2017
- CS110: Computer Architecture, Spring 2018