

## MINGRAN PENG

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## EDUCATION

**Shanghai Jiao Tong University** Sept. 2015 – Jun. 2019(expected)

B.S. in Computer Science & Engineering

**GPA:** overall: 3.94/4.3 freshman: 3.89/4.3 sophomore: 3.96/4.3 junior (till now): 4.03/4.3

### Main courses:

**Math:** Mathematical Analysis I (94)/Mathematical Analysis II (95)/ Mathematical Foundations of Computer Science (95)/ Probability and Mathematical Statistics (95)

**Computer science:** Algorithm and Complexity (97)/ Operating Systems (100)/ Operating System Projects(100)/ Embedded Systems (98)/Computer Architecture(93)/ Computer Architecture Experiment(95)/ Data Structure (95)/Database System (95)

**Programming and Engineering:** C++ Programming (96)/ Programming: Practice and Core Guidelines (94)/ Electrical Engineering (97)/Electrical Engineering Experiment (96)/ Engineering Practice and Innovation 1 (93)/ Engineering Practice and Innovation 2B (100)/ Engineering Practice and Innovation 3C (100)

## RESEARCH EXPERIENCE

### AI-Empowered Detection of Driver's Phone-Using

Mar. 2017 – Present

Advisor: Prof. Hongzi Zhu

Lab of Innovation on Networking, SJTU

- Designed and implemented a system on mobile phone to judge its position (driver's position or not) by a single photo taken. If the phone locates in the driver area, the usage of the phone will be prohibited for safety.
- Neuron Network was applied on mobile phone to analyze photos.

### Obstacle Detection System Based on Embedded Device and LiDAR

Mar. 2017 – Present

Advisor: Prof. Ming Yang

CyberC3 Intelligent Vehicle Labs, SJTU

- Designed and implemented obstacle detection system on embedded Device. (To the best of knowledge, all state-of-art system is implemented on PC but not embedded device)
- Applied RANSAC algorithm on Raspberry Pi 3b with some improvement.

### Chaoxin Visualization Project: Semantic Recognition

Sept. 2017 – Feb.2018

Advisor: Prof. Bin Sheng

Lab of Visual Media and Data Management, SJTU

- Designed a method to analyze topic of given Chinese text and label the words in text.
- Now working on finding ways to visualize the analyze result.

### AI-Empowered Lane-Level Localization

Apr. 2018 – Present

Advisor: Prof. Hongzi Zhu

Lab of Innovation on Networking, SJTU

- Designed a lane-level vehicle localization system that can deal with dynamic transportation traffic and faint lane marks based on image recognition.
- Started recently and is still studying state-of-art method.

## SELECTED COURSE PROJECT

### Android Kernel Hacking

Mar. 2017 – Jun. 2017

Projects for course: Operating System Projects, SJTU

- Implemented a system call that displays the process tree.
- Implemented a system call to investigate page table and copies the page table of a process to pre-allocated memory.
- Replaced the origin page-replacement algorithm of Android with a new one.

### SCM Car Remote Control System on Android Platform

Sept. 2017 – Feb. 2018

Projects for course: Engineering practice and innovation 3C, SJTU

- Programmed on Arduino to receive orders from a certain Android smart phone and control the car accordingly.
- Support nine control methods including speech control, gravity control, graphics control, etc.

## LEADERSHIP

**Teaching assistant of Prof. Yong Yu on course Data Structure, SJTU**

Sept. 2016 – Jan. 2017

- In charge of course assignments and projects, teaching recitations and help session.

## ACDEMIC ACTIVITIES

**Present the 11<sup>th</sup> Annual International Conference on Combinatorial Optimization and Applications (COCOA 2017)**

12.2017

- Presented with Prof. Sheng Bin as a participant of Chaoxin Visualization Project (mentioned before on research experience) and prepared the slides for presentation.

**Present International Workshop on Future Advanced Network Technology (FANT'18)**

5.2018

- Presented with Prof. Hongzi Zhu. Also served as volunteer.

**Present ACM Turing Celebration Conference**

5.2018

- Presented with Prof. Hongzi Zhu. Also served as volunteer.

## SELECTED SCHOLARSHIP & HONORS

- Merit Student of Shanghai Jiao Tong University 2015 – 2016
- Honorable prize in The Mathematical Contest in Modeling (MCM) Apr.2016
- Academic Excellence Scholarship (Class B) of Shanghai Jiao Tong University 2016 – 2017
- Academic Excellence Scholarship (Class C) of Shanghai Jiao Tong University 2015 – 2016
- Second prize on National Olympiad in Informatics in Provinces (NOIP) Oct.2014

## SKILLS & INTERESTS

- **Language skills:** Mandarin (native), English (score 601 points on CET6, T 96, G 319, Pass EPT)
- **Programming:** C++/C, Python, pytorch, SQL, Java, Linux
- **Software:** Matlab, Latex, Android Studio, Mysql, Visual Studio
- Enjoy board games and working out (full score on pull-up for all PE courses)