



# Zhixin Zeng

✉ [zhixin.zeng725@gmail.com](mailto:zhixin.zeng725@gmail.com) |  [crimson725.github.io](https://github.com/crimson725) |  [Crimson725](#)

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## Education

### Sichuan University

BEng in Electrical Engineering and Automation

- GPA 3.62/4.0      Average Score 87.1/100

Chengdu, China

Sept. 2019 – Sept. 2020

### Sichuan University

BS in Cybersecurity

- GPA 3.79 /4.0      Average Score 89.6/100

Chengdu, China

Sept. 2020 – Present

**Overall GPA 3.76 /4.0      Average Score 89.1/100**

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## Selected Publications

\*: equal contribution

- [1] A Complete Reinforcement-Learning-Based Framework for Urban-Safety Perception [\[fulltext\]](#)  
Yaxuan Wang\*, **Zhixin Zeng\***, Qiushan Li, and Yingrui Deng  
ISPRS International Journal of Geo-Information 11.9 (2022): 465  
(*SJR: Q1; Impact Factor: 3.388*)
- [2] Evaluating the Perceived Safety of Urban City via Maximum Entropy Deep Inverse Reinforcement Learning [\[camera-ready version\]](#)  
Yaxuan Wang, **Zhixin Zeng**, and Qijun Zhao  
The 14th Asian Conference on Machine Learning (ACML 2022), Dec 2022, Hyderabad, India  
(*China Computer Federation/CCF Recommended Category C Conference*)

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## Research and Projects

### Research on Urban Safety Perception Using RL and IRL

Oct. 2021 – Aug. 2022

Advisor: Prof. Qijun Zhao and Full-time Postdoctoral Qiushan Li

Chengdu, Sichuan

- Proposed a novel scalable state representation method and evaluation framework to model the problem as a Markov Decision Process.
- Used reinforcement learning (RL) to solve the decision-making problem and inverse reinforcement learning (IRL) to recover the reward function that can explain the evaluation pattern.
- Experimental results showed satisfactory performance (at least 3% improvement in F1-Score) and excellent interpretability. It also showed that IRL has promising prospects in related fields.
- Responsible for data collection, experiment environment designation, experimental comparison, and article writing.
- Two papers were accepted to **ISPRS International Journal of Geo-Information** (co-first author) and **ACML 2022** (second author).

### Face Anonymization System for Videotelephony

Mar. 2022 – Aug. 2022

Advisor: Prof. Peisong He

Chengdu, Sichuan

- Served as a core developer for the project.
- Designed a novel face anonymization system for videotelephony based on StyleGAN2.
- Designed and developed the back-end of the system.

### Deepfake Detection and Alert System

Oct. 2021 – Aug. 2022

Advisor: Prof. Peisong He

Chengdu, Sichuan

- Served as a core developer for the project.

- Developed a complete deepfake detection and alert system for videotelephony and short-form video softwares.
- Designed a novel method to track the transmission chain of short-form video using the digital watermark.
- Designed and developed the back-end of the detection system.
- **Project is listed as a National College Students' Innovation and Entrepreneurship Project**

### **Radar Signal Pattern Recognition**

Mar. 2021 – May. 2021

*Collaborate with Chen Qian and Hua Wang*

*Chengdu, Sichuan*

- Applied various models and analyzed models' performance based on radar signal data to recognize the patterns of different signals.
- Responsible for data processing, experimental comparison, and article writing.
- Finished the research paper **Study on the Impacts of Feature Indexes on Intelligent Identification of Communication Modulation Mode** [\[link\]](#)

### **NLP-based Commodity Reviews Evaluation System**

Oct. 2020 – Oct. 2021

*Advisor: Lec. Xiaodong Zeng*

*Chengdu, Sichuan*

- Served as a core developer for the project.
- Designed the large-scale web crawler used for data collection.
- Analyzed users' sentiment tendency towards commodities based on the collected corpus information using deep learning models.
- Designed and developed the UI and the back-end of the system.

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## **Awards**

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| • Third-Class Comprehensive Scholarship, Sichuan University | 2020 |
| • Outstanding Students Award, Sichuan University            | 2021 |
| • Second-Class Scholarship, Sichuan University              | 2021 |

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## **Skills & Courses**

**Languages:** Chinese: Native, English: Fluent

**Programming Languages:** Python, Java, C, JavaScript, R

**Mathematics:** Linear Algebra, Calculus, Probability Statistics, Discrete Math, Number Theory and Abstract Algebra

**Courses:** Data Structures and Algorithmic, Operating System, Database System, Computer Organization and Architecture, Computer Communication and Networks

**Miscellaneous:** SQL, Linux, Shell, Git, ~~TeX~~ LaTeX, PyTorch, HTML, CSS