



Zhixin Zeng

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Education

Sichuan University

BS in Cybersecurity

Overall GPA 3.76 /4.0

Average Score 89.1/100

Chengdu, China

Sept. 2020 – Present

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 Journal; Impact Factor: 3.099*)
- [2] Evaluating the Perceived Safety of Urban City via Maximum Entropy Deep Inverse Reinforcement Learning [\[fulltext\]](#)
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*)

Research and Projects

Research on Urban Safety Perception Using RL and IRL

Oct. 2021 – Aug. 2022

Advisor: Prof. Qijun Zhao and Postdoctoral Researcher 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 design and implementation, experimental comparison, and article writing.
- Two papers were accepted by **ISPRS International Journal of Geo-Information** (co-first author) and **ACML 2022** (second author).

Face Anonymization System for Video Conferencing Software

Mar. 2022 – Aug. 2022

Advisor: Prof. Peisong He

Chengdu, Sichuan

- Served as a core developer for the project.
- Designed a novel face anonymization method 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 video conferencing and short-form video software.
- 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.

- Listed as an outstanding project of the National College Students' Innovation and Entrepreneurship Training Program

Radar Signal Pattern Recognition

Mar. 2021 – May. 2021

Collaborate with Chen Qian and Hua Wang

Chengdu, Sichuan

- Applied various models on radar signal data to recognize the patterns of different signals and analyzed models' performance.
- 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 Product 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 products based on the collected corpus information using deep learning models.
- Designed and developed the UI and the back-end of the system.

Awards

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

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, \LaTeX , PyTorch, HTML, CSS