Zhixin Zeng

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Education

Sichuan University, China — Sep 2019 - Present
Bachelors of Engineering in Cybersecurity — GPA: 3.704/4

IELTS — L/6.5 R/7.5 W/6.0 S/6.5

CET-6 — 639

Research Projects

Radar Signal Pattern Recognition — Mar 2021 - May 2020

- Built and analyzed models based on radar signal data to recognize the patterns of different signals.
- Completed the research paper Study on the Impacts of Feature Indexes on Intelligent Identification of Communication Modulation Mode
- Tools Used: Python, MATLAB

NLP-based Commodity Evaluation System — Dec 2020 - Nov 2021

- Analyzed users' sentiment tendency towards product evaluation based on the collected corpus information using deep learning models
- Designed and developed the UI and the back-end of the system, integrated the NLP model with the system
- Tools Used: R, Python, JavaScript, MATLAB; TensorFlow, PyTorch, PaddlePaddle

"SecurityEye" - Deepfake Detection and Alert System for Short-Form Video Platforms — Oct 2021 - Present

- Built the web page of the detection system
- Designed the databases of the detection system
- Designed and developed the back-end of the detection system
- Designed and developed the method that can trace video's chain of transmission
- Optimized the process of detection
- Tools Used: Python, JavaScript, SQL

"SecurityFace" - Face Anonymization and Deepfake Detection System for Videoconferencing Platforms — Mar 2022 - Present

- Completed the reconstruction of the model used in DeepFaceLab
- Design the framework that can generate unique virtual faces and train a deepfake model based on StyleGAN2
- Designed and developed the back-end of the detection system; transplanted and optimized the relevant algorithms
- Optimized the process of detection
- Designed and developed the back-end of the client software
- Tools Used: Python, JavaScript, SQL, Java; PaddlePaddle, PyTorch, scikit-learn, TensorFlow, OpenCV

Perceived Safety Evaluation Using Reinforcement Learning and Inverse Reinforcement Learning — Jun 2021 - Present

- Designed and developed a crowd-sourcing evaluation platform to annotate street view images; build the dataset based on the annotation collected for the research
- Designed expert system using expert knowledge, based on semantic features of the images
- Designed training environment based on expert system
- Designed reinforcement learning and inverse reinforcement learning methods to learn from expert system
- Completed the research paper Evaluating the Perceived Safety of Urban via MEDIRL
- Tools Used: Python, R, SQL, JavaScript, MATLAB; TensorFlow, PyTorch, PaddlePaddle, OpenCV, Ray RLlib

Achievements

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

Technical Skills

Programming languages: C, Python, Java, R
Web Technologies: HTML, CSS, JavaScript
ML/AI: PyTorch, Numpy, Pandas, Matplotlib, TensorFlow
Miscellaneous: MySQL, Git, Latex

Relevant Coursework

Computer Science: Data Structures and Algorithmic, Databases, Operating Systems, Computer Communication and Networks, Computer Organization and Architecture, Introduction to Artificial Intelligence
Mathematics: Calculus, Discrete Mathematics, Mathematics for Cybersecurity, Probability Statistics, Linear Algebra