

Zhenyuan Ji

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EDUCATION

Shanghai Jiao Tong University, School of Electronic Information and Electrical Engineering

Master of Engineering, Major in Control Engineering **GPA: 3.41/4.00**

Sep. 2021 to Mar. 2024

Tianjin University, School of Electrical and Information Engineering

Bachelor of Engineering, Major in Automation, **GPA: 3.43/4.00**

Sep. 2016 to Jun. 2020

Awards & Scholarships: Merit student scholarship, Tianjin University (2016 Autumn, 2017 Spring)

PUBLICATIONS

Zhenyuan Ji, Genke Yang, Yawei Tian and others , “Multi-grained Adaptive Spatial-Temporal Graph Convolution Network for Traffic Forecasting” , NEUROCOMPUTING

Zhenyuan Ji (the first author), “Stable Conservative Q-learning for Offline Reinforcement Learning”

Zhenyuan Ji (the third author), “An Enhanced Network Intrusion Detection Method Using Auxiliary Classifier Generative Adversarial Networks”

PROJECTS

Offline Reinforcement Learning Algorithm

May 2023-Jun 2023

- Researched the literature and got familiar with the progress of offline reinforcement learning and the existing algorithms, such as BCQ algorithm and MOREL algorithm
- Designed and improved Q learning algorithm to improve the penalty formula for OOD actions by introducing generative network and Q-value estimation network without using next action

Network Intrusion Detection

Shanghai Jiao Tong University

Feb. 2023-Jun. 2023

- Researched the literature and implemented generation network models, such as VAE, GAN and diffusion model
- Designed and utilized improved Auxiliary Classifier Generative Adversarial Network to conduct intrusion detection

Multi-granularity Adaptive Prediction of Traffic Flow based on Spatial-temporal Graph Convolution Network,

Shanghai Jiao Tong University

May 2022 to Dec. 2022

- Conducted data analysis; extracted temporal features using time convolution and attention mechanism, and extracted spatial features using graph convolution
- Used sequential convolutional TCN to improve the self-attention module
- Introduced the self-attention mechanism and adaptive module into the diffusion graph convolution, allowing the adjacency matrix representing the spatial relationships of nodes to be dynamically adjusted according to the input data in both the training stage and testing phases

Software Design of Signal Processing Module of Flow Device

Tianjin University

Feb. 2020 to Jun. 2020

- Designed function modules, including accurate timing module, pulse acquisition module, pulse output module, LCD display module, key processing module, analog quantity acquisition and output module, menu module, etc.
- Coded the function modules using STM32F104 microcontroller and C programming; finished functions including pulse standard table method acquisition, weighing method dual-time acquisition, analog acquisition channel single-ended, differential acquisition switching, signal form switching
- Constructed an interface for the smart meter

Automatic Flow-metering Calibrating System

Tianjin University

Jun. 2019 to Aug. 2019

- Designed a human-computer interaction interface for the calibration system; achieved the objective that devices can be controlled by manual or automatic operation and switch between different calibrating times and calibrating points
- Used S7-200 Smart to control the servo motors and to achieve the loading and unloading of weights in different calibrating points

SKILLS & INTERESTS

Skills: Java, Python, Microsoft Office (PowerPoint, Word, Excel)

Languages: Chinese (Native), English (TOEFL: 102, GRE: 322)