Guanlue Li

(+86) 184-8369-3208 | guanlueli@gmail.com
https://github.com/liguanlue | https://sites.google.com/view/guanlueli

Education Background

Beijing University of Posts and Telecommunications Beijing, China
Master in Computer Technology (GPA: 3.38/4.00) *Sep. 2019 – Jun 2022*

Southwest Jiaotong University Chengdu, China
Bachelor in Communication Engineering (GPA: 3.68/4.00 Top 5 %) *Sep. 2015 – Jun 2019*

Related Courses: Data Warehouse & Data Mining (93) Digital Image Processing (92) Signal and System A (99)
Data Structure (96) Advanced Program Course Design (97) Digital Electronic Technique A (96)

Research Interesting

Graph Neural Network, Internet of Vehicles, Multi-Agent System Decision Making, Trajectory Prediction

Publication

Li, G.; Luo, G.; Yuan, Q.; and Li, J. 2022. Trajectory Prediction with Heterogeneous Graph Neural Network. In Khanna, S.; Cao, J.; Bai, Q.; and Xu, G., eds., PRICAI 2022: Trends in Artificial Intelligence, 375–387

Projects

Trajectory Prediction with Heterogeneous Graph Neural Network Oct. 2020 – July. 2021
Researcher Advised by professor Jinglin Li

- Developed a trajectory prediction system to model interactions between mobile agents
- Achieved multi-modal destination prediction by VAE to generate more diverse and plausible trajectories
- Investigated the interactions between different types of mobile agents by heterogeneous transformer graph network
- Improved the calculation efficiency by distributed computing and increased the trajectory accuracy by 5.8 %

Framework for Multi-agent Trajectory Tracking, Smoothing and Forecasting May. 2020 – Sep. 2020
Researcher Advised by professor Jinglin Li

- For tracking, utilized attention mechanism to encode spatiotemporal dependencies of agents; added occlusion state during the attention association process to reason about occlusion agents
- For smoothing, used Kalman Filter to reduce data noise and provide more accurate vehicle trajectories
- For forecasting, used LSTM to predict trajectories and utilized social pool to learn interactions among agents

Q-Learning Path Planning for Multi-Agent System in Traffic Networks Nov. 2018 – May. 2019
Researcher Advised by professor Jinglin Li

- Maintained global and local Q-table to overcome the drawbacks of sub-optimal convergence and unstable Q-value
- Used Q-learning to update Q value of actions; let mobile agents submit traffic conditions to reduce congestion
- Tested how different scales of traffic, parameters, learning rate and greedy rate affect the model ability

Social Network Articles Crawl and Text Classification Based on Naive Bayes Nov. 2019 – Dec. 2019
Team leader

- Cracked the interface parameters required for ajax dynamic loading.
- Classified crawled articles by Naive Bayesian algorithm and used the TFIDF algorithm feature selection
- Built an online system that takes raw texts as queries and returns classification results with almost 90 % accuracy

Internship

Users Data Analysis Jul. 2018 – Aug. 2018
Guoxinan Base *Chengdu, China*

- Built an online system that analyzes user's data and shows users' portraits; used Django to build projects
- Used HTML, CSS, JavaScript to visualize user portraits and analysis results; utilized Ajax to update web pages dynamically.

Technical Skills

Languages: Python, Matlab, C++, HTML/CSS
Plarforms/Tools: Pytorch, Deep Graph Library, Linux, OpenCV
English Capability: IELTS 7