Xiaoyi Wu
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EDUCATION

University of Pennsylvania Sep 2021-Jun 2022
Master of Urban Spatial Analytics
- Main coursework: Transportation Planning, Multimodal Transportation, Spatial Statistics, Data Analytics, Game Theory, Remote sensing, Artificial Intelligence, Public Policy Analytics
- Honors: Master's Degree Scholarship, 2021-2022

China University of Geosciences (Beijing) Sep 2016-Jun 2020
Bachelor of Science, major in Geology (the Training Base for Geosciences)
- GPA: 3.5/4.0
- Honors:
  1. Professional Scholarship (three times), 2017-2019
  2. First Prize of the Third College Physics Academic Competition, Oct 2018
  3. First Prize of College Social Practice, Oct 2018
  4. First Prize of the Green Plus Creativity Competition, Apr 2018

RESEARCH EXPERIENCE

Median House Value Prediction in Boulder, Colorado Dec 2021
Independent Project, University of Pennsylvania
- Wrangled and processed socio-economic and geographic data with web-APIs to do exploratory analysis and feature engineering
- Built Ordinary Least Squares and Spatial Regression Model to predict median house values in Boulder County
- Revised models based on cross validation and feature importance, discussed generalizability in different contexts and policy implications

Multi-agent Reinforcement Learning Sep 2020-Current
Research Assistant, Institute of Automation, Chinese Academy of Sciences
- Conducted research on multi-agent coalitional games, a novel problem studying dynamic team structure optimization with flexible agent number in diverse environments
- Simulated experiments in multi-task environments, and developed a graph model based on centralized training and decentralized execution paradigm to optimize team structure with zero-shot generalizability
- Designed core functions and web interaction of Jidi platform, programmed baseline algorithms and environments
- Acted as a teaching assistant of seminar Game Theory, assisted in designing course and answering questions

Dynamic Monitoring of Urban Land Use and Expansion Process Analysis of Chengdu, Sichuan 2018-2019
Independent Project, China University of Geosciences (Beijing)
- Collected Landsat and Sentinel-2 remote sensing images, and generalized three-index synthetic images to extract different types of land cover based on integrated normalized differential farmland index (NDFI) and soil-adjusted vegetation index (SAVI) and normalized differential building index (NDBI)
- Used object-based models to classify land cover, and extracted city boundary based on entropy maximum
- Constructed land use transition matrix, and made spatio-temporal analysis of the urban sprawl process in Chengdu

INDUSTRY EXPERIENCE

Kuayue Express Mar-Sep 2020
Data Analyst Intern, Department of Automated Logistics System
- Defined the tracking point of invalid scheduling events based on historical data analysis, designed dynamic evaluation model and visualized real-time spatial-temporal distribution of delivery tasks
- Conducted experiments based on terrain and GPS data, and optimized the scheduling mechanism under traffic restriction scenarios, which increased the system coverage rate by 11% and the scheduling success rate by 7%
- Developed shipping weight and customer behavior prediction model to help the company choose the most effective way to ship

SKILL

- **Programming:** Python | JavaScript | Matlab | R | C++
- **Software:** MapGIS | Oracle | ArcGIS | ENVI |Adobe Illustrator