Miaoyan Zhang

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EDUCATION

University of Pennsylvania Philadelphia, PA
Master of Computer and Information Technology (MCIT) | GPA 4.0/4.0 Aug 2021 – May 2023

University of Pennsylvania Philadelphia, PA
Master of Urban Spatial Analytics (MUSA) | GPA 3.71/4 Aug 2019 – May 2020

Southeast University Nanjing, China
Bachelor of Engineering | GPA 3.74/4 Aug 2015 – Jun 2019

EXPERIENCE

CityDNA Technology
Software Engineer (Full-time) Nov 2020 – Aug 2021

- EzScene | *space-time scenario simulation application framework and 2D/3D webGL system*
  - **Independently** implemented space-time scenario map & data platform with *React* and *Redux*, based on *Mapbox GL*
  - Implemented different customization of the product, which was sold to **32 different cities**, bring **$3 million profit**
  - Wrote reusable UI components library; implemented rapid application development with *Kepler GL* for early stage
  - Developed interactive functions between map and *Echarts*, allow users update statistical charts by draw on map, etc.
- EzDataManagement | *data management platform for users to CRUD database online*
  - Implemented data platform with *VUE.js* & *ElementUI*, provide users more convenient methods to operate database
  - Developed back-end authority system and authentication system with *MongoDB* and *JSON Web Token (JWT)*
- EzRisk | *full-stack rapid-developed risk alarm system*
  - Enabled risk prediction, parameter adjustment and result visualization based on user's input under *Flask* framework

CityDNA Technology
Software Development and Data Analysis Intern Jun 2020 – Nov 2020

- Crawled over **5 million** sales and rent data of Lianjia (China's largest real estate platform) using *Selenium* and *Scrapy*
- Further developed *ArcPy* algorithms with *GeoPandas*. Rewrote algorithms of *ArcPy* from Python 2 to Python 3 context
- Developed machine learning models to predict land-use with satellite imagery, object recognition with street view images

World Resources Institute
Analytics Intern Feb 2019 – Jun 2019

- Collected data and adopted different machine learning models to predict global transportation emissions in 50 years

PROJECTS

PennLobby - Group-Based Social Network Web App (see APP) Sep 2021 – Dec 2021

- Implemented a *MERN* platform for students to have group discussions on school affairs, post and send private messages
- Built an interactive front-end using *React* & *Redux* and use *RESTful API* for front-end and back-end communication
- Implemented web server with *Express* and *Node.js*, performed *CRUD* operations to manage data in *MongoDB*
- Created *AWS S3* cloud storage bucket to store application's image & video files, in order to decrease load to the server
- Used *Jest* & *cypress* for testing, and *Travis* for continuous integration. Enabled live notification and chat with *WebSocket*

Guess Celebrity Games (see APP) Oct 2021 – Nov 2021

- Built a *full-stack* web application that provide users a web game that let users guess who the celebrity is with given photos
- Stored all user records in *MySQL*; implemented back-end with *Node* and *Mongoose*; deployed the web app to *Heroku*

Baltimore Fleet Optimization (see Markdown & App) Feb 2020 – May 2020

- Optimized and reduced Baltimore fleet comeback rates with time-series prediction model, reduced **3%** of financial cost
- Created a web app with *JavaScript CSS & HTML* for mechanics and decision-makers to better visualize prediction result

SKILLS

Programming Languages: Python, JavaScript/HTML/CSS, Java, R, C++, SQL, C
Technology: React, Redux, Vue, Flask, jQuery, Git, Bootstrap, MongoDB, AWS, JSON, NPM, MongoDB, MySQL