Rayna（Yuxi） Liu

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Evanston， IL

SUMMARY

- Actively look for an position related to data science.
- Proactively identifying analytical problems, designing a tactical plan, and solving problems
- Strong quantitative analytical skills, statistical knowledge, and strong business acumen
- Self-started, attention to detail, projects prioritization skills and a good team player

EDUCATION

Northwestern University **IL, US**

Master of Science in Electrical Engineering *GPA 3.45/4.0* **Sept 2021 – June 2023**

University of Bridgeport **Bridgeport, CT**

Bachelor of Science in Electrical Engineering *GPA 3.8/4.0* **Sept 2018 – June 2020**

Wuhan University of Science and Technology **Wuhan, China**

Bachelor of Science in Electrical Engineering **Sept 2016 – June 2018**

SKILLS

- Programming Language: Python (pandas, numpy, Tensorflow, Pytorch), Java, C, Matlab
- Database language: MySQL, PostgreSQL, Redshift, BigQuery.
- Visualization: Tableau, R (ggplot2), Excel, Python (Plotly, Matplotlib, Seaborn)

WORK EXPERIENCE

Oin Auto | San Francisco, CA **Aug 2023 – Expected Nov 2023**

Intern, Data Scientist

- Extracted tens of thousand pieces of news data from web pages in preparation for building a system to recommend news related to electric vehicles.
- Completed data cleansing, keyword extraction and quantification of the degree of relevance to distinguish between valid and invalid news.
- Using the cutting-edge NLP model (MPNet), a system is designed to find articles with similar semantics by word embedding technique and calculate the cosine similarity between them, which improves the accuracy and efficiency of article recommendation.

Teaching and Learning Center | Bridgeport, CT **Sept 2018 – May 2020**

Tutor, Math & Physics

- Conducted one-on-one and group tutoring sessions in math and physics for students.
- Monitored and tracked student progress, adjusting teaching strategies as necessary to ensure continuous improvement and success.

PROJECT EXPERIENCE

Binocular-based computerized depth perception

- Constructing binocular depth datasets, using KITTI data and monocular depth vision algorithm (monodepth2)
- Design generative adversarial deep neural network (**GAN**) for binocular images
- Training the GAN network, using binocular datasets

Credit Card Customer Clustering Analysis

- Identified the relationships/affinities between services.
- Applied **factor analysis** for dimension reduction.
- Built an unsupervised learning model using **K-means** and reveal the behavioral segments.
- Discovered seven clusters, describing characteristics using derived data for **detailed profiling.**
- Provided **strategic insights** and implementation of business strategies.

Customer Churn Prediction

- An in-depth look at the causes and patterns of customer churn to develop a targeted customer retention strategy.
- **Cleaned and transformed** data, while **feature engineering** was performed to extract key features from the raw data. **Visualization techniques** were applied to reveal behavioral patterns between churned and active customers, providing an important reference for understanding the causes and patterns of customer churn
- Selected and implemented multiple ML models (**Random Forest, Boosting, and SVM**) for prediction. **Random search** and **grid search** techniques were applied to optimize the model parameters.
- Through parameter tuning, the accuracy was increased to 95%, while the recall rate reached 84.2%.

ChatGPT-Driven E-commerce Data Analysis

- Leveraged **ChatGPT, an AI-driven NLP tool**, to analyze customer preferences in e-commerce.
- Used **AWS** managed end-to-end data processing: from retrieving and cleaning e-commerce datasets to performing intricate analyses using Python, SQL, APIs, and Data Visualization.
- Trained and optimized the ChatGPT model with a clear **chain of thoughts** to ensure accurate and actionable insights.
- Boosted prediction accuracy by 14% and successfully navigated challenges inherent to ML-driven data analysis.