Summer Xia

EDUCATION

Northwestern University **Chicago, IL**
M.S. Data Science *Expected graduation: Aug.2024*
University of California, Santa Barbara **Santa Barbara, CA**
Major: Statistics and Data Science B.S. *Sep.2019-June.2023*
Dean's list: three quarters | Honors Program

SUMMARY OF SKILLS

- Programming Languages: R (packages: shiny, keras, tensorflow, etc.), Python (packages: pandas, matplotlib, seaborn, Pytorch, NumPy, SciPy, Keras, TensorFlow), C++, SQL, Javascript, Linux, HTML
- Technical Tools:
    - Databases: Alicloud, MongoDB, MySQL workbench, PostgreSQL, Dbeaver, Neo4j
    - Data visualization: Tableau
    - Cloud based platform: AWS SageMaker, Databricks
    - Other: Excel (VLOOKUP), KNIME (KNIME Python integration), Godot, SAS, Celonis (process mining)

PROFESSIONAL EXPERIENCE

Baker Tilly **Data Science Capstone (May.2024-Present)**

- Use machine learning and AI to derive insights from office occupancy data

Realix AI **Data Science Intern (March.2024-Present)**

- Prompt engineering: Fine tune training model (LLM), increased the BLEU score by 20%
- Text processing and data cleaning, version control, seed transcript generation

Fintelics **Data Analyst Intern (Oct.2022-Dec.2022)**

- Utilized Mark to Market model with pandas and numpy packaged in Python, developed a model for interest rate swap
- Conducted gap analysis to propose process improvements and converted business requirements into user stories, use cases and test cases
- Used NLP sentiment analysis to analyze the relationship between news headlines and stock prices, implemented the end product on MongoDB

ARK.IO **Data Analyst Intern (Jul.2022-Sep.2022)**

- Monitored and managed AlibabaCloud database (memory and CPU utilizations, indexes, etc), retrieved and updated data using SQL queries
- Generated timely reports on user and post data with Tableau
- Determined the most active users and created banners for them to boost user interaction and stored the data to cloud for future analysis

PROJECTS AND RESEARCH

Capstone with CalCOFI **Jan 2023- May 2023**
An eDNA window into larval fish habitat, ecosystem structure, and function using CalCOFI data

- Conducted preliminary analysis, data cleaning, and model development for 18s sequence eDNA datasets
- Improved the overall interpretability of the data, pinpointed the issues within the data processing step and supervised the correction.
- Employed PCA to summarize the overall datasets, then used general linear model, and decision tree to build a predictive model for anchovy presence based on the eDNA.

AI Art Detector Project **Sep. 2022 - April.2023**
Developed a neural network model to discern if the image is generated by AI

- Proposed the project idea and led a group of two to four throughout the year.
- Used MaxVit to develop two separate neural networks: one for distinguishing between human and AI art, one for distinguishing the possible source of the AI art.

Survival Analysis Project **Fall 2022**
Probability of world's political parties' leaders to stay in office for a certain time *Mentored by Professor Andrew Carter*

- Based on previous research by Horiuchi and Liang, this project tries to find the relationship between the time of election and the length of the political leader's term.
- Used R packages survival and survminer to plot the Kaplan Meier estimate probability, performed step AIC to select variables and created a Cox Proportional Hazard model, and finally explored the recurrent event model for the data.

Time Series Project **Winter 2022**
Ground level ozone in Los Angeles from 2000 - 2020

- Visualized the time series with R, identified the time series as a seasonal ARMA model.
- performed spectral analysis on the model, and forecasted the ground level ozone up to March 2022 with fair accuracy.