Banff Jiang

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Education

University of California, San Diego — La Jolla, CA
Bachelors of Science in Data Science — *September 2024 – June 2026*
- 3.81 GPA in major related courses (STEM)

University of California, Riverside — Riverside, CA
Bachelors of Science in Data Science — *September 2022 – June 2024*

Experience

Undergraduate Research Assistant — December 2024 – Present
University of California, San Diego — *La Jolla, CA*
- Developed and implemented trend filtering techniques on graphs, exploring their application in time series analysis
- Contributed to the development of fast differentially private matrix factorization algorithms

Data Science/Machine Learning Intern — June 2024 – September 2024
DriveTime — *Tempe, AZ*
- Developed predictive models that calculated potential customer purchase likelihood through credit history by **50%** using ML models such as Random Forest and XGBoost
- Trained models on **30+** datasets with millions of rows and thousands of features
- Increased data model efficiency by **50%** through EDA and cleaning large datasets to preprocess
- Automated data pipelines using Python and SQL, reducing data processing time by **30%**

Undergraduate Academic Instructor - Peer Educator — March 2023 – June 2024
University of California, Riverside — *Riverside, CA*
- Provided organized course materials and tools to efficiently aid **200+** students in Calculus
- Proctored weekly exams and performed individual/group meetings with students
- Worked closely alongside Professor to refine standards of the course

Projects

Tour de Map | *D3, JavaScript, HTML/CSS, Node.js* — January 2025 – February 2025
- Constructed an interactive geospatial visualization for bike routes in the Greater Boston and Cambridge area using D3.js, JavaScript, and Mapbox API
- Integrated bike traffic data to display congestion levels and provide insights into the most-used routes and stations in real-time
- Incorporated *GeoJSON* to represent bike routes and bike stations, enabling users to explore local cycling infrastructure
- Programmed a dynamic, user-friendly interface with HTML/CSS and optimized performance with Node.js

StockVision | *Flask, TensorFlow, PostgreSQL, Python, scikit-learn, Pandas* — June 2024 – August 2024
- Built a machine learning model to forecast future stock market movements by analyzing historical market data and identifying key trends and patterns
- Achieved **0.94** R-squared by leveraging a combination of Random Forest and SVMs to ensure optimal predictive performance
- Performed feature selection, normalization such as log inverse, and **100k+** missing values

EmotionSense | *Python, NLTK, K-means, Scikit-learn* — May 2024 – June 2024
- Engineered a sentiment analysis project on 100,000+ Amazon reviews using KNN, K-means, and the Elbow Method, with BoW and TF-IDF for vectorization.
- Designed data cleaning and preprocessing pipelines, enhancing dataset readiness for optimal analysis
- Evaluated model performance using metrics, achieving **90%** F1 score, and **94%** accuracy

Technical Skills

Languages: Python, C/C++, SQL (Postgres), JavaScript, Java HTML/CSS, R
Frameworks: React / React Native, Node.js, Flask, FastAPI
Developer Tools: Git, GitHub, Docker, AWS, VS Code, Redis
Libraries: TensorFlow, Keras, Pytorch, XGBoost, scikit-learn, Pandas, Matplotlib