Jade Zhang

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Education

Master of Science, Economics and Computer Science (GPA: 3.7/4.0) Expected: 09/2023
Drexel University | Philadelphia, PA | Drexel Merit Scholarship

Master of Science, Business Analytics (GPA: 4.0/4.0) 05/2021
Clark University | Worcester, MA | Clark SOM Dean's Scholarship

Bachelor of Science, Applied Mathematics 05/2019
University of Maryland, College Park | College Park, MD

Work Experience

Data Science Intern | Fulton Bank | Lancaster, PA 05/2023 – Present
- **Time-series Forecasting, Python**: Building a rolling cash forecasting pipeline using Exponential Smoothing, ARIMA, and LSTM to dynamically predict cash balances for all branches and integrating results into an optimization algorithm.
- **Optimization, Python**: Collaborating with a team to develop a cash allocation optimization utility for branches, potentially saving $5.5-10 million annually. The prototype achieved first place in the internal datathon, and the project is on track for production deployment within 6 months.
- **Python:** Crafted a keyword-based search utility to find a specific keyword and its corresponding reports, data sources, and tables within all Power BI and SQL reports on the server, significantly improving search and mapping efficiency.
- **Power BI, SQL:** Utilized SQL queries and data integration to gather and transform data from multiple sources into a unified Power BI dashboard.
- **Git, MS Azure:** Managing and updating tasks and projects on Git version control system and Microsoft Azure.

Decision Science Graduate Researcher | Drexel University | Philadelphia, PA 08/2021 – 01/2023
- Developed forecasting methodologies and algorithms, presented findings at two prestigious conferences in the field of forecasting and artificial intelligence, and submitted an academic paper to a peer-reviewed journal.
- **Time-series Forecasting**: Proposed a hierarchical forecasting framework to forecast college enrollment, resulting in a 15% improvement in accuracy compared to conventional methods.
- **Machine Learning Clustering, Python**: Created a bisecting hierarchical clustering algorithm for time series data, which introduced a new method for institutions to achieve 80% greater fairness across groups via data aggregation.
- **Mathematical Modeling, MATLAB**: Collaborated with coauthors to develop a fairness metric that is more generalizable than any previous ones and implemented code for a novel aggregation method based on this metric.

Graduate Research Assistant | Clark University | Worcester, MA 12/2019 – 05/2021
- Led multiple research projects, coordinated co-authors, and presented findings at INFORMS, the biggest international conference in analytics field. Provided significant insights for both academic researchers and industrial practitioners.
- **Database design, SQL, Tableau**: Designed a database to manage unstructured, dirty data and used it to extract ~130,000 useful observations and ~200 features. Employed Tableau for data visualization and analysis.
- **Machine Learning, Deep Learning**: Applied feature engineering and classification algorithms to identify gender as an important indicator of personal injury, achieving higher accuracy (~85%) and AUC (~0.9) than previous research.
- **Statistical Analysis, Regression, R**: Utilized multiple statistical tests to evaluate the fairness of an AI heart transplant decision-making platform. Revealed evidence of gender and regional biases in the predictive outcomes.

Personal Projects

Wids Datathon Competition - Survival Rate Prediction (Machine Learning, Ensembled Methods) | [Code](#)
- Predicted patient survival rates using ML Ensembled Methods and finished in the top 10% of participants.

Real or not? NLP with Disaster Tweets (NLP, Deep Learning, PySpark) | [Code](#)
- Determined whether the Tweets were emergency announcements and obtained accuracy >= 85% and AUC >= 0.89.

Areas of Expertise

Core Skills: Data Mining & Analysis | Statistical Modeling | Machine Learning | Time-series Forecasting | Deep Learning | Data Visualization | Project Management | Research & Analysis | Communication & Presentation

Programming & Tools: Python (Pandas, SciPy, NumPy, Scikit-learn, statsmodels, Keras, TensorFlow, PyTorch) | R | Java | SQL | MATLAB | C/C++ | Mathematica | SAS | Git | Power BI | Spark | MS Azure | MS Office Suite