Josh Kraus
Data Analytics Intern

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(919) 889-1180
Chapel Hill, NC
LinkedIn | Portfolio

Education

M.S. Analytics
Georgia Institute of Technology
August 2022 - Present
GPA: 4.00, Anticipated Graduation: May 2024

M.M. Education
University of Florida
January 2020 - December 2023
GPA: 4.00, Summa Cum Laude

B.M. Performance
University of North Carolina - Greensboro
August 2016 - December 2019
GPA: 4.00, Summa Cum Laude

Skills

Programming
Python: NumPy, Pandas, Scikit-Learn, Beautiful Soup
R: Tidyverse, Caret, Forecast, Knitr
SQL: MySQL
SAS

Supervised Learning
Support Vector Machine, Artificial Neural Network, General Linear Model, Decision Tree, Naïve Bayes Classifier, K-Nearest Neighbor, Ensemble Methods, Factor Analysis

Unsupervised Learning
K-Means, Principal Component Analysis, Gaussian Mixture Model, Kernel Density Estimation, Anomaly Detection

Analytics Modeling
Time Series Forecasting, Simulation, Linear Programming

Data Visualization
Python: Matplotlib, Seaborn
R: ggplot2
Microsoft Power BI

Essential Skills
Communication, Collaboration, Project Management, Strategic Planning, Attention to Detail, Critical Thinking, Creativity, Adaptability

Work Experience

Global Product Analytics Intern
Liberty Mutual Insurance
June 2023 - August 2023 | Boston, MA
- Build generalized linear models to estimate the risk and frequency of insurance claims to price clients' policies.
- Utilize Python, SQL, and SAS to retrieve and manipulate large, complex data sets.
- Determine variables for insurance pricing models using feature selection techniques.
- Comply with laws on the development of insurance pricing models by tailoring approaches to accommodate individual state regulations.

Founder & Analytics Consultant
Mindful Modeling
January 2022 - Present | Raleigh, NC | Website
- Build data-driven solutions for educational institutions to better utilize resources.
- Project(s): Enable high volume, high contact student services organizations to efficiently provide staffing to meet student demands by visualizing time series forecasts and historical trends of student appointments and event attendance. The solution utilizes an interactive dashboard built in Microsoft Power BI and analysis performed in R.
- Clients Include: Departments within North Carolina State University

Music Educator
Green Level High School, Cary High School
August 2016 - Present | Cary, NC
- Develop curricula, lesson plans, and teach the fundamentals of music performance.
- Collaborate with colleagues to establish goals and best practices for educating students.
- Address the individual needs of students by modifying teaching methods to effectively deliver material.

Notable Projects

Machine Learning for Medical Image Analysis
- Collaborated with colleagues to develop, conduct, and report research while meeting deadlines and expectations.
- Trained seven unique machine learning models on chest x-ray images to classify the pathology finding of each image.
- Balanced datasets through undersampling and data augmentation utilizing geometric transformations.
- Tested and compared the performance of each model using ROC curves and AUC scores.

Optimal March Madness Bracket using Simulation
- Utilized Python to construct a web scraper, aggregate, and manipulate data.
- Developed seven strategies for completing brackets utilizing supervised learning, game theory, and domain knowledge.
- Performed 1000 Monte Carlo simulations on seven bracket strategies and compared their performance using confidence intervals, hypothesis tests, and cumulative distribution functions.