KATHERINE EMILY SIMON | DATA SCIENTIST

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SUMMARY

Highly conscientious inquisitive data scientist and former math educator that strives to apply my background to solve complex technical problems. I am looking for an opportunity to contribute and grow my data-driven techniques in machine learning, coding, creating visuals and advanced analytics and to use data to make a difference in my community.

SKILLS

Coding - Python - Pandas - Numpy - Scikit-learn - Streamlit - SQL - Web Scraping - Pyspark - Librosa
Machine Learning - Regression - Classification - NLP - Neural Networks - Time Series - Predictive Analytics Tools
Data Visualizations - Matplotlib - Seaborn - Plotly - Geopandas - Geoplot
Software - JupyterLab - Slack - Microsoft Office - GitHub - Google Suite - Google Colab - AWS

DATA SCIENCE PROJECTS

During my time at General Assembly, I leveraged advanced data science analysis and modeling techniques to solve real-world problems, including 20 labs and 6 large-scale projects. These projects include but are not limited to:

Speech Audio Commands
- Classify audio sound as speech command based on spectrogram image of waveform using CNN with TensorFlow speech_commands dataset with and training accuracy of 93%. This is a proof of concept and beginning steps to create an application that can provide a transcript of a conversation in real time.

Food Deserts in Chicago
- With a team of Data Scientists, constructed a binary classification model to identify food deserts based on income, access to vehicles, disabilities and obesity information. Visuals created in Geopandas to identify areas that require high priority access to healthy food.

Reddit
- Classified Reddit comments from r/todayilearned and r/askscience subreddits with an accuracy score of 85% using NLP modeling techniques.

RELEVANT DATA EXPERIENCE

Data Science Immersive Fellow Remote
General Assembly 09/2021 - 12/2021
- Completed a 13-week, 500 hour immersive data science course to develop skills in Python programming, data visualizations, statistical modeling and supervised and unsupervised machine learning.
- Conducted exploratory data analysis, created visualizations to understand data, and performed data cleaning and feature engineering on large datasets to prepare for modeling.
- Gained expertise building models, tuning models, and evaluating models for regression, classification, ensemble methods, natural language processing, computer vision, and neural networks to develop models that best solve specific business problems. Deployed the most optimal models to Streamlit applications for external use.

Senior Actuarial Analyst New York, NY
USI Consulting Group 07/1998 - 09/2001
- Performed EDA, quantitative analysis and maintained client relationships
- Passed Society of Actuaries, Course 1 - Mathematics Foundation of Actuarial Science November 1998

ADDITIONAL EXPERIENCE AND VOLUNTEERING

From 2002 through 2021, I taught high school math in public school districts in North New Jersey for 10 years. I instructed Algebra II at accelerated, general, and core levels as a solo teacher and as a co-teacher. I instructed a data driven basic skills course to ensure passing of High School Proficiency Assessment. At Ridge High School in Basking Ridge, NJ, I researched, developed and implemented a data driven course for students who completed Algebra II, but were not ready or interested in taking precalculus. The course included but was not limited to:

- Projects were developed to build on prior knowledge by incorporating real world situations. One example in Students researched, modeled and interpreted results for real world situations including using linear functions to model fuel efficiently for cars.
- Discrete mathematics projects and topics were researched, developed and implemented including voting techniques, creating a shortest route for deliveries.

Coordinator Pre-K Program | Grandview Elementary School | North Caldwell, NJ   2013, 2015, 2016
- Coordinated volunteer Pre-K program of 25 parents to ease the transition to kindergarten for 50 children.

Board Member | Temple Sholom of West Essex   9/2017 - 6/2019
- As a member of the Education Committee, assisted in the hiring of the Religious school director as well as advising the director, Rabbi and Cantor with religious school and children programming.
- Coordinated 15 activities at a local Purim Carnival and organized adult and teen volunteers.

EDUCATION AND CERTIFICATIONS

- **General Assembly |** Certificate, Data Science | Remote   9/2021 - 12/2021
- **Montclair State University** | Master of Arts, Supervision and Administration | Montclair, NJ   6/2005 - 12/2006
- **Teachers College, Columbia University** | Master of Arts, Mathematics Education | New York, NY   9/2001 - 10/2002
- **Tufts University** | Bachelor of Science, Mathematics | Medford, MA   9/1992 - 6/1996