

Catherine Sanso
Data Scientist | Engineer | Level III CFA Candidate
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SUMMARY

Engineer turned data scientist and finance enthusiast with a talent for synthesizing data into user-friendly insights to drive engagement

EDUCATION

General Assembly, Remote

Certificate of Completion, Data Science Immersive (DSI)

06/2023 - 09/2023

- Full time immersive student with 500+ hours of expert instruction.

The Cooper Union (Manhattan, NY)

Masters of Engineering in Civil Engineering

05/2017

Bachelors of Engineering in Civil Engineering

05/2014

CREDENTIALS

- **Licensed Professional Engineer (PE)** – New York, 2018, #100221 | California, 2018, #C8957
- **Chartered Financial Analyst (CFA) Level III Candidate**

SKILLS

Technologies: Python | SQL | R | Jupyter Notebook | Github | Tableau | PowerBI | Google Suite | Office 365

Python Libraries: Pandas | NumPy | SciPy | Matplotlib | Seaborn | Scikit-Learn | Natural Language Toolkit | Beautiful Soup | Keras | TensorFlow | Statsmodels

Competencies: Data Cleaning | Exploratory Data Analysis | Predictive Modeling | Data Visualization | NLP

Modeling Experience:

- Supervised Learning: Linear/Logistic Regressions | Classifications | Ensemble Models (Random Forests, Bagging, Boosting, Stacking)
- NLP: Web scraping, APIs
- Unsupervised Learning: Clustering (K-Means, DBSCAN) | Dimensionality Reduction (PCA) | Recommendation Systems | Transfer Learning
- Neural Networks (NNs)
- Time Series
- Experimental Design & A/B Testing

DATA SCIENCE PROJECTS

Speech Emotion Recognition | Created custom CNN and VGG16 models using TensorFlow, Keras, & Librosa

- Achieved 99% accuracy in classifying 7,400 audio files into 6 emotions using custom CNN models and VGG16 transfer learning.

Tesla Time Series Forecasting | Developed quantitative financial models using Statsmodels & Pmdarima

- Forecasted Tesla's closing stock price using time-series models: exponential smoothing, Holt Winters, and SARIMA(X) with 46 weeks of historical data via Yahoo Finance API.
- Conducted sentiment analysis on 92 headlines with Beautiful Soup, integrating media polarity to develop exogenous variables for SARIMAX model.

Red Wine Recommender System | Designed various recommender systems using scikit-learn

- Implemented popularity, content-based, and collaborative filtering models to boost revenue and user engagement.
- Using web scraping and exploratory data analysis, extracted 1,025 product features from wine.com, conducting data analysis for user insights.

PROFESSIONAL EXPERIENCE

White Strand Development (Manhattan, NY)

03/2021 - Current

Data Engineer

- Analyzed NYC real estate data on carbon emissions to empower decision-makers with information, predictions, and insights regarding the environmental impact of buildings in the city.

- Delivered findings and recommendations to both peers and senior executives supporting machine learning solutions that informed strategic decisions.
- Developed NLP models referencing Google Sidewalk Labs and various NYC large datasets for deeper data insights, leading to improved model development and more informed business decisions.

Jones Lang LaSalle (Manhattan, NY)

06/2021 - 02/2023

Senior Project Manager, in-house consultant for Citadel

- Delivered timely turnover of Citadel's 100,000 SF commercial real estate development project valued at \$55M in hard costs while preserving mission critical infrastructure operations for business units.
- Managed stakeholder relations within a larger NY development team overseeing projects of \$400,000 and \$250M in hard costs.
- Implemented Tableau and Power BI dashboards and created visualizations that simplified complex data to uphold schedule, prevent cost overruns, and mitigate risk. Presented to executive leadership weekly.
- Responsible for pro-forma cash flow projections for quarterly budget allocations and revised vendor/partner service agreements to reduce monthly expenditures by ~6%.

Copper Hill Development (Manhattan, NY)

06/2019 - 06/2021

Senior Project Manager, in-house consultant for Evercore

- Executed the real estate advisory planning and construction project management for Evercore's New York, San Francisco, and Menlo Park commercial locations totaling 500,000 SF and \$75M in hard costs.

Project Manager

- Produced high-quality Python programming code for creating automated, scalable models of construction costs of labor, materials, overhead, and insurance to interpret price sensitivity and return on investment (ROI) measures for both technical and non-technical audiences.

Thornton-Tomasetti Weidlinger (Manhattan, NY)

06/2021 - 02/2023

Senior Engineer

- Implemented building infrastructure project milestones of Mt. Sinai's 350,000 SF Medical Campus infrastructure from due diligence, through design development, and to client turnover.
- Demonstrated strong interpersonal skills through effective communication with stakeholders and mentoring younger team members in collaborative environments

Engineer

- Deployed and customized GIS software and developed 3D-modeling company standards for engineering teams to enhance existing Building Information Modeling (BIM) practices.
- Reduced design hours by ~25% and improved gross profit margins by ~5% for various civil engineering infrastructure projects by implementing new modeling practices teamwide.

WB Engineers + Consultants (Manhattan, NY)

06/2021 - 02/2023

Engineer

- Led an internal committee in identifying key marketing metrics through social media platforms and open-source databases.
- Created accessible dashboards, resulting in a 5% increase in business development pursuit conversions, optimizing company spending through statistical analysis of marketing efforts.