

# Melissa Anthony

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## GIS Data Scientist | Data Scientist | NLP Specialist

With over 15 years of experience as a Data Specialist, an extensive background in Machine Learning, NLP, and GIS Analysis is brought to the forefront. Proficiency is demonstrated in Python, SQL, R, and various data analysis tools, alongside a skill set that covers data analytics, dashboard creation, GIS analysis, and technical documentation.

### Skills

**Data:** Anthropology, Machine Learning, Natural Language Processing, Oracle, Google/AWS, Classification Models, Regression Models, Supervised Models, Unsupervised Models, Statistics, Data Distributions, Real-World Analysis, Times-Series, Reinforcement Learning, TensorFlow, Keras, Big Data, Tableau, Data Workflows, Data Architecture, Relational Databases, Data Mining, Databricks

**Coding:** Python, SQL, Relational Databases (RDBMS), R, Q language

**Business:** Project Management, Asset Management, Management Experience, Business Communication, Technical Writing, Presentation Skills.

### Professional Experience

#### Quantitative Research Analyst – Xcel Energy | Denver, CO | September 2020 – Present

- Accomplished the design, testing, and delivery of over 10 precise and informative dashboards, measured by the resulting facilitation of data-driven decision-making for analysts and executives, which improved optimization strategies.
- Achieved actionable insights by utilizing GIS analysis techniques to identify and present patterns related to meter usage, resulting in enhanced resource allocation and cost savings.
- Enhanced data analysis and decision-making capabilities by proficiently employing a wide array of tools, including Python, R, SQL, Oracle, Databricks, kx, Q language, ESRI ArcGIS, QGIS, SAC, SaS, and PowerBI.

#### GIS Data Science Instructor – Bootcamp GIS | Denver, CO | August 2020 to Present

- Instructed students in building, testing, and interpreting decision tree models with a focus on comprehension and real-world applications, fostering strong foundational skills in data science modeling.
- Conducted practical Python work, including correlation plot analysis, to extract insights from government data, enhancing data analysis proficiency.
- Strengthened GIS expertise and prepared students for data challenges through the teaching of geospatial analysis within QGIS.
- Empowered students to showcase insights by guiding them in creating JSON-based dashboards for public sharing.
- Prepared students for data-driven roles by equipping them with essential skills in Python, data science modeling, and GIS dashboarding through a comprehensive curriculum.

#### Part-time Data Scientist / Analytics Consulting – Cinefuse | Denver, CO | August 2020

- Increased users to a projected 200,000 and user interaction by 125% by leveraging Python, AWS, SQL, and machine learning models to optimize user acquisition and engagement strategies to successfully achieve the goal of growing user base and enhancing user engagement by 125%.
- Restructured SQL Server database of 5k movies and associated 20+ attributes by utilizing data normalization and database design to reorganize and manage extensive movie database, enhancing data retrieval and performance, improving database efficiency, resulting in faster data retrieval and streamlined data management processes.

#### Expert GIS Supervisor – CORE Electric | Sedalia, CO | September 2007 to July 2018

- Led and managed GIS operations, measured by strategic initiatives execution and operational excellence in the field, by overseeing GIS data for a non-profit electric cooperative covering a vast territory of over 5k square miles across 11 counties and serving more than 160k customers, playing a pivotal role in the organization's success.
- Reported on metrics to executive-level management, influencing strategic direction of company, and generated and presented comprehensive reports to senior management, highlighting KPIs that informed important strategic

decisions, data-driven reports provided critical guidance for organization's leadership, contributing to informed and strategic decision-making.

## Projects

### Natural Language Processing | [Oh, The Horror!](#)

- Employed NLP techniques to train a classifier for automated Reddit post classification.
- Conducted web scraping on social Reddit platforms to perform sentiment analysis.
- Leveraged sentiment analysis results to provide personalized news site recommendations to friends, with a focus on horror movies.

### Random Forest/Gradient Boost in Vote ensemble | [Help in a SNAP](#)

- Analyzed 400,000 SNAP records containing 800 features, optimizing dataset to 31 columns while achieving a remarkable 95% accuracy in predicting SNAP recipients per state.
- Implemented this data-driven solution to enhance risk assessment during COVID-19 pandemic, effectively identifying those in need of SNAP assistance.
- Additionally, integrated GIS analysis into project for a comprehensive approach to support and resource allocation.

### Neural Network | [Behind the Mask](#)

- Designed and developed an image classifier powered by Artificial Intelligence to discern individuals wearing masks and those without masks.
- Integrated this model with a Twitter image scrape, enabling real-time prediction of COVID-19 spread locations based on visual data.
- Incorporated GIS analysis to provide geospatial insights, enhancing understanding of virus transmission patterns and assisting in targeted containment strategies.

### Regression and other data analyst techniques

- Engineered a predictive model using regression techniques to forecast house prices, contributing to informed decision-making in real estate sector.
- Proficiently managed data and executed monthly reporting for ETL analytics, integrating GIS datasets into multiple systems tailored to meet specific customer needs.
- Collaborated with diverse data sources including CIS, Engineering, SCADA Operations, AutoCAD, cloud data, API, and mobile applications, ensuring seamless data integration and analysis.

## Education & Certifications

**Certificate in Data Science**, General Assembly, 2020

**Master's Certificate GIS**, University of Denver, 2008

**Bachelor of Arts in Anthropology & Geography**, University of Colorado, 2004