

MARY- STEWART WACHTER

DATA SCIENTIST

Contact

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Skills

PROGRAMMING LANGUAGES

Python
R
Matlab
SQL
ArcGIS
Tableau

DATA SCIENCE STRATEGIES

NLP
Classification Modeling
Regression Modeling
Data wrangling and EDA
Web Scraping
Convolutional Neural
Networks

Leadership

Secretary 2016 to 2017
Pi Mu Epsilon, Mathematics
Honor Society

Southern Ambassador
Vice President
Admissions liaison and campus
tour organization

Recruitment Chair, New
Member Educator
Chi Omega

Orientation Leader
Birmingham-Southern
College

Education

Mississippi State University
Master of Science Geoscience 2019

Birmingham-Southern College
Bachelor of Science Mathematics 2017

Experience

Metis New York, NY
Data Scientist Mar. 2020 to June 2020

Completed 12-week ACCET accredited immersive data science boot camp and designed five projects end-to-end from ideation to presentation of findings. Sharped python programming skills along with predictive modeling, data visualization, natural language processing, and machine learning.

Selected work includes:

Timeseries Convolutional Neural Network Model

- Focused on the seasonal cyclical nature of temperature highs and lows for the northeast over 5 years to build a WaveNet style convolutional neural network for time series
- The model predicted temperature highs and lows for any of 240 weather station locations in the northeast U.S collected from NOAA historical climatological data network
- Interactive table dashboard visualizing specific geographic locations of the station and historical temperature highs and lows recorded for the past 5 years

Unsupervised NLP Project

- An unsupervised machine learning project, applying NLP techniques such as CorEx topic modeling and Vader sentiment analysis to dive into an in-depth analysis of the original StarWars Trilogy scripts
- Created a character embedding using google new's pre-trained word2vec word embeddings for each sentence spoken by each character
- PCA to visualize character embeddings for main characters

Precipitation Prediction Model

- Created a supervised learning model utilizing NOAA daily summary data on BigQuery through GoogleCloud to create a binary prediction model of if precipitation would occur on a given date and location
- Feature engineering to add information to create a more robust random forest model focusing on a high beta score to minimize type 2 error
- The real-world business application of the model to predict if a rain contingency plan is needed for an outdoor event

Mississippi State University Starkville, MS
Graduate Assistant Aug. 2017 to May 2019

Organized sales of class rings, advertisements, social media management, and ring ceremony event planning requiring attention to detail, organizational skills, and task management. Sound business ethics protecting the client's financial information. Work with all levels of internal staff as well as outside vendor Balfour

Public Citizen Washington, D.C
Cover Climate Intern June 2018 to Aug. 2018

Climate and Energy Outreach Program Intern
Managed and updated activist database. Developed excellent written and verbal communication and organizational skills. Demonstrated ability to follow directions and work in a team environment. Built knowledge and subject-matter expertise through independent research and peer learning. Tracked and participated in industry events and relevant media coverage.

Research Projects

Geoscience Master's Thesis

Determined ways urban areas have evolved, in comparison to surrounding areas, by looking at diurnal temperature differences during frontal passages and the implications of these changes to the energy sector. Required manipulation of large datasets, data collection, analysis, and quantitative problem-solving.

Units In Quadratic And Multi-Quadratic Fields

Collaborated with Mathematics professor in the field of abstract algebra researching multi-quadratic fields. Published a new proof on multi-quadratic fields and findings of said fields using PARI/GP. Poster Presentation required translating technical research into terms meaningful to the audience.

Public Citizen Extreme Silence Report

Data collection and analysis of large media outlet articles language in context to extreme heat events.