Patrick Norman

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Skills

PYTHON
NumPy
Pandas
Scikit-learn
Plotly
Seaborn
Matplotlib
Keras
Earthpy
TensorFlow

OTHER TOOLS
RStudio
ArcGIS
Tableau
SQL

OTHER SKILLS
Statistics
Linear algebra
Probability
Deep learning
Git and version control

MACHINE LEARNING
Regression
Classification
Neural networks
Natural language processing

Education

Western Washington University
BS Environmental Science 2020
Minor Political Science 2020

Employment

Metis
Data Scientist — Jan. 2021 to Mar. 2021

Completed an intensive data science bootcamp and gained experience spearheading python projects that included exploratory data analysis, modeling, machine learning, statistics, linear algebra, data visualization, and project management. See project section.

Western Washington University - Soil Ecology Lab
Research Assistant — Winter 2020 to Spring 2020

- Worked as a research assistant investigating the role that fungi play in protecting plants from pathogens
- Responsibilities included experiment design, maintaining sterile conditions in a greenhouse setting, data collection, and data analysis.

Stashlogix
Order Fulfillment and Quality Control Manager — Jan. 2016 to Sept. 2019

- Independently oversaw quality control for multiple employees and maintained communication between teams in a fast paced startup environment.
- Optimized inventory database and ensured efficient order packing and delivery.

Projects

Exploratory analysis of pollutants in the Puget Sound food web
Created a tool to model the distribution and movement of pollutants in the Puget Sound food web. Worked closely with a team to wrangle messy data, perform PCA and exploratory data analysis, and create data visualizations.

Exploratory data analysis of MTA turnstile activity
Based on analysis of MTA turnstile data, provided a recommendation to a potential client seeking ideal locations to place signature-gathering volunteers. Gathered data showing NYC subway ridership and analyzed spatial and temporal patterns in Python. Worked with a team to gather, clean, and explore the data in Pandas. Created visualizations with Matplotlib and Seaborn to describe activity patterns clearly.

Modeling regional housing prices using natural amenities
Created a tool to leverage natural beauty to model housing prices. County-specific data were scraped using BeautifulSoup and stored in Pandas. Linear regression was applied with cross validation and regularization, using an implementation of the scikit-learn library. Results were clearly described using visualizations created using Matplotlib and Seaborn.

Detecting fraudulent job postings
Created a classifier that could accurately and precisely detect fraudulent job postings on online job boards, based on the text found in the posting. Used Python tools such as Pandas, Scikit-learn, and Matplotlib. Implemented algorithms such as logistic regression, Random Forest, and boosted gradient trees. Analyzed text of the job postings using count vectorization.

Anticipating wildfires using machine learning
Built tools in Python to allow the user to see predicted extent of burn areas per county for a given year, based on an Extra Trees classifier implemented via Scikit-learn. Classifier was trained on multiple data sources to give an accurate and precise estimation of forest fire patterns across the western United States. Tool allows for flexibility by having adjustable fire-size threshold, allowing the user to examine spatial distribution of small, medium, or large fires. Applicable to firefighting resource distribution as well as for insurance and planning purposes. Interactive map created using Plotly.

Exploring the COVID-19 conversation through natural language processing
Built a series of Python tools to automatically perform topic modeling and sentiment analysis to Twitter search queries. Used these tools to explore and visualize the national COVID-19 conversation, incorporating more than 500,000 tweets. Modeled COVID case density through linear regression using engineered features from sentiment and topic.