WIL2 Tech Portfolio Overview – https://www.datascienceportfol.io/madejumo118

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GitHub Portfolio: https://github.com/Monsurat118/data-science-portfolio

About Me

I am a Machine Learning and Data Science practitioner skilled in Python, data cleaning, visualization, and model development. I enjoy transforming raw datasets into clear insights and building models that solve real-world problems. My portfolio highlights the projects I completed during my Machine Learning diploma at NorQuest College, demonstrating hands-on experience with ML workflows, data preprocessing, prediction modeling, and exploratory analysis.

Portfolio Summary

This portfolio contains **four applied data science and machine learning projects**, each showcasing different technical skills and problem-solving methods.

Project 1: Go Auto Used Car Price Prediction

Objective:
Predict the sale price of used cars based on features such as mileage, year, make, and model.

Key Skills:
Regression modeling, data cleaning, feature engineering, EDA, sklearn.

Highlights:

- Performed exploratory analysis to understand pricing patterns

- Built and evaluated multiple ML models

- Optimized features to improve prediction accuracy

Project 2: NPRI Environmental Release Prediction Model

Objective:
Predict pollutant release quantities using the Canadian National Pollutant Release Inventory (NPRI) dataset.

Key Skills:
EDA, regression modeling, feature selection, data transformation, and interpretation.

Highlights:

- Cleaned and restructured environmental data

- Built a prediction model to estimate pollutant releases

- Identified major contributors and trends

Project 3: NSWO Migration Analysis (Northern Saw-whet Owl)

Objective:
Analyze migration patterns using telemetry data from Motus tracking stations.

Key Skills:
Time-series analysis, geospatial visualization, clustering, ML analysis.

Highlights:

- Identified active migration periods

- Visualized detection patterns across regions

- Applied clustering to explore movement behavior

Project 4: LEGO Image Analysis (Computer Vision)

Objective:
Use image processing techniques to segment and analyze individual LEGO pieces from an image.

Key Skills:
OpenCV, thresholding, segmentation, preprocessing, and visualization.

Highlights:

- Worked with raw image data

- Applied threshold methods to isolate shapes

- Demonstrated understanding of basic computer vision workflows

Technical Skills Summary

Programming & Tools:
Python, Pandas, NumPy, Scikit-Learn, Matplotlib, Seaborn, OpenCV, Git, GitHub

Core Competencies:
Data Cleaning, Feature Engineering, Regression Modeling, Classification, Visualization, EDA, Time-Series Analysis, Clustering, Image Processing