

MOHAMD IMAD

Mississauga Ontario, Canada

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TECHNICAL SKILLS

Languages: Python, MATLAB-Simulink, SQL

Technologies: Linux, Git, Pandas, Numpy, Matplotlib, Scikit learn

PROJECTS AVAILABLE IN 🔗

Unsupervised Machine Learning Model For Fitness Data Clustering

- Unsupervised project in Python categorizing people based on their fitness data using K-Means Clustering algorithm.
- Conducted EDA and applied PCA for better data visualization. PCA reduced data to 2 principal components with 65% variance and presented good separability of data.

NLP Model For Psychological Stress Prediction

- NLP project in Python predicting psychological stress, aims to decrease false negatives (people that have psychological stress but the algorithms predicts otherwise).
- Bernoulli NB outperformed other NLP algorithms by reducing the false negatives by 50%.

Machine Learning Medical Insurance Charges Prediction Model

- Built ML model predicting medical insurance charges based on Age, Sex, BMI, Number of Children, Smoking, and Region in Python. Extensive EDA revealed Age and Smoking are most influential on the charges.
- Utilized multiple algorithms; Gradient Boosted Trees performed best with RMSE of 33.86%.

Machine Learning Strokes Prediction Model

- ML analysis predicting strokes, aims to decrease false negatives; optimized recall in GridSearchCV for each algorithm.
- Logistic Regression, KNN, SVM, Decision Trees, and Random Forests were utilized. Age is the most influential in predicting strokes. Top performers: DT with Ada boost and SVM.

Used Cars Prices Web Scraper

- Scraped prices of used vehicles from major dealership in Mississauga Ontario, using Python's Requests and Beautiful Soup libraries. All scrapped data was stored in PostgreSQL.

EXPERIENCE

General Motors of Canada

Ontario Canada

Vehicle System Diagnostics and Controls Calibration Software Engineer

Feb 2023 – Present

- Leading a Python-based automation project aimed at automating HIL bench diagnostics testing, resulting in a significant 90% reduction in engineers workload on the HIL benches.
- Developed and applied classification machine learning models to optimize the calibration of multiple vehicle programs, leading to a significant 15% increase in efficiency.

Controls and Diagnostics Test Software Engineer

Apr 2022 – Feb 2023

- Developed process improvement tools using Python that streamlined process flow and reduced testing setup time, resulting in a 40% time decrease for testing engineers.
- Responsible for conducting testing and diagnostics of Diagnostics Trouble Codes (DTCs) in both HIL benches (PHS/SCALEXIO) and pre-development/production-approved vehicles, specifically for the Body Control Module (BCM).

University of Ontario Institute of Technology

Ontario Canada

Research Assistant

Sept 2018 – Jun 2021

- Constructed a numerical model using ABAQUS solver to analyze cutting inserts of milling tools, and validated results through experimental testing. Demonstrated proficiency in numerical modeling, simulation, and validation.
- Utilized Python for EDA on experimental cutting forces data, developed multiple scripts for analytical calculation of cutting forces.

EDUCATION

University of Ontario Institute of Technology

Masters of Applied Science in Mechanical Engineering

Ontario, Canada

University of Ontario Institute of Technology

B.Eng (Honours) in Manufacturing Engineering

Ontario, Canada