

Zak Mohamed

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Summary

Ambitious and dedicated student seeking a data science and machine learning co-op for 8 months starting May 2025. Demonstrates strong leadership abilities and a passion for technology, innovation, and solving complex challenges.

Skills

Python, C/C++, SQL, NumPy, Pandas, Scikit-Learn, TensorFlow, PCA, Matplotlib, Seaborn, Keras, Linux, GitHub

Education

Conestoga College | Cambridge, ON

Bachelor of Engineering, Cyber Systems Engineering | 04/2027

Relevant Courses: Data Structures and Algorithms, Object-Oriented Programming, Math I, II, III, Signal Processing

Coursera

IBM Data Science Professional Certificate

Projects

SpaceX Falcon 9 First Stage Landing Prediction

IBM Data Science Capstone, July 2024

- **Objective:** Predicted the successful landing of SpaceX Falcon 9 to optimize launch costs and enhance reusability.
- **Data Collection & Preprocessing:** Extracted and cleaned data from the SpaceX API, handling categorical variables with Label Encoding and scaling numerical features.
- **Exploratory Data Analysis (EDA):** Conducted comprehensive EDA using SQL queries and visualizations to identify key patterns and insights.
- **Model Development:** Built and evaluated multiple classification models including: **Logistic Regression, SVM, KNN, Decision Tree:** Achieved up to 88% accuracy and 89% F1 score.
Random Forest: Optimized hyperparameters attaining **94% accuracy** and **96% F1 score**.

Network Intrusion Detection

Machine Learning Project, September 2024

- **Objective:** Implemented anomaly detection to identify malicious activities within network traffic using the NSL-KDD dataset.
- **Data Preprocessing:** Applied PCA for dimensionality reduction, reducing features from 43 to 26 while retaining 95% variance.
- **Model Implementation:**
Decision Trees: Achieved 96% accuracy and 96% F1 score by optimizing hyperparameters.
Neural Networks: Developed a deep learning model using TensorFlow, attaining **99% accuracy** and **99% F1 score**.
- **Evaluation & Comparison:** Analyzed model performances through accuracy metrics and confusion matrices, identifying Neural Networks as the top performer.

Experience

Novocol Pharma | Cambridge, ON

Set-up Operator | 09/2023 - Present

- Led the Inspection, Labeling, and Packaging area, achieving the highest individual OEE in the company of 95%.
- Set up and calibrated manufacturing equipment, optimizing operational efficiency.
- Implemented new procedures that reduced setup time, enhancing overall productivity.
- Assisted with pharmaceutical investigations, ensuring adherence to quality and compliance standards.

References

Available upon request

