Tushar Rajput

Data Scientist / Analyst / Python Developer / Mechanical Engineer

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SKILL STACK

Python (OOP, DSA) | Advanced SQL (MySQL, SQL Server) | Data Cleaning and Preparation, Dimensionality Reduction, EDA, Time-Series Analysis, Feature Engineering, Hyperparameter Tuning, CNN, LSTM, ANN | TensorFlow, Keras, Scikit-learn, PyTorch | Plotly, Power BI, Looker Studio | AWS, Azure, Oracle Cloud Infrastructure | Flask | Advanced Excel

COURSES and CREDENTIALS

Oracle Cloud Infrastructure 2025 Certified Data Science Professional | Microsoft Azure Fundamentals (Management and governance, Architecture and services, Cloud concepts) | Google Advanced Data Analytics Professional (Getting started with Python, Foundations of Data Science) | 200+ solved LeetCode DSA problems

PROJECTS

Boston Consulting Group - Data Science Job Simulation (Forage)

Conducted churn analysis using Python & Random Forests (85% accuracy) and delivered executive-level actionable insights.

Customer Segmentation using K-Means & PCA

Objective: Identified distinct customer groups for targeted marketing strategies using unsupervised learning.

Highlights:

- Performed **feature engineering**, **scaling**, and **dimensionality reduction (PCA)** to enhance cluster separability.
- Visualized customer clusters and behavior trends using **Matplotlib** and **Seaborn**.
- Delivered actionable segmentation insights to support customer retention and marketing optimization.

Tech Stack: Python, Scikit-learn, NumPy, Pandas, Matplotlib, Seaborn

Deep Learning Image Classifier (CNN on CIFAR-10)

Objective: Built and optimized a deep convolutional neural network to classify images across 10 categories.

Highlights:

- Designed and tuned CNN architecture using **TensorFlow** and **Keras**, improving validation accuracy by 12%.
- Applied **data augmentation**, **dropout**, and **batch normalization** for better generalization.
- Explored advanced architectures in a **CNN Deep Dive** for layer visualization and model explainability.

Tech Stack: TensorFlow, Keras, NumPy, Matplotlib, CNN

[Airline Passenger Forecasting using LSTM]

Objective: Predicted future airline passenger traffic using **Long Short-Term Memory (LSTM)** neural networks.

Highlights:

- Conducted **time-series preprocessing** (lag features, scaling, windowing) to prepare data for sequence modeling.
- Compared LSTM results with baseline statistical models for trend and seasonality forecasting.
- Achieved a **mean absolute error reduction of 18%** over classical methods.

Tech Stack: Python, TensorFlow, Keras, Pandas, NumPy, Matplotlib

EMPLOYMENT HISTORY

CAD Drafter at Matrex Window System Inc., Vaughan, ON

December 2021 - January 2024

- Created a library of custom CAD components that could be reused across multiple projects
- Developed renderings and animations for marketing materials
- Developed 3D CAD models of a complex mechanical assembly with 10+ components

Injection Molding Press Operator at Quality Models Ltd, Windsor, ON

February 2020 - September 2021

- Optimized semi-automatic injection molding work station by leveraging the Therblig Scoring System, achieving a 15% reduction in resource utilisation.
- Carried out in-process visual inspection and reported to supervisor and/or quality inspector for deviations.
- Created detailed trim and molding for kitchen renovation and automotive OEMS

EDUCATION

MEng Mechanical Engineering, University of Windsor 2020-2021

FEA(Composite Structures) | CFD | Engine Testing and Performance | Solar Energy Engineering

B.E. Mechanical Engineering, G.T.U 2014-2018