Hi, I'm Ghani Haider

I am a computer science undergrad with experience and interest in Machine Learning and Data Science. I am seeking to leverage my data analysis and machine learning skills to deliver insights and implement action-oriented solutions to complex problems.

Projects & Open-Source Contributions:

Topic	Summary
Deep Learning	
2D Self-driving Simulation	Implemented Deep Q-Network (DQN) with greedy action selection policy for simulating a self-driving vehicle using OpenAI Gym car racing environment and CNN architecture.
Gender Determination by Morphometry of Eyes	A model which uses scanned images of patient's eye and determine their gender for anthropometric analysis of the human face using Artificial Neural Network (ANN)
Regression Projects	
Seoul Bike Rent Prediction	Understand the trends in the data and indentify key factors affecting demand for rental bikes in Seoul as well as predict the amount of rental bikes required per hour.
Used Car Price Prediction	Using information about used cars listed on cardekho, predicting car prices based on given features and trends in the data.
Classification Projects	
Urdu Speech Emotion Recognition (SER)	Developed a Speech Emotion Recognition (SER) model for Urdu language using SEMOUR dataset in order to correctly classify the Urdu speech and audio inputs to emotions.
Heart Disease Classification	To confirm 100% if a patient has heart disease can be quite an invasive process, so creating a model that accurately predicts the likelihood of heart disease to help avoid expensive and invasive procedures.
Kaggle Titanic Survival Prediction	Titanic disaster dataset taken from Kaggle competition. The goal is to predict if a passenger survived from a set of features such as the class the

Topic	Summary
	passenger was in, hers/his age or the fare the passenger paid to get on board.
IRIS Dataset Classification	Given classic Iris Dataset, the goal is to understand trends in the data and perform non binary classification with Logistic Regression.
FMNIST Dataset Classification with Sklearn Classifiers	Given Fashion-MNIST dataset comprising of 28x28 grayscale images of 60,000 fashion products from 10 categories, a scikit-learn based classifier is built for this dataset to classify each input image into one (out of 10) categories. Experimented with five to six different classifiers and reported classification metrics for each of them.
Time Series Forecasting	
Hourly Energy Consumption	Given hourly power consumption data from PJM's website (an electric transmission organization in USA), understanding both short and long terms trends in energy consumption and to predict energy consumption over a certain period.
Natural Language Processing	
Text Classification using Naive Bayes	Given a dataset of textual summary of medical queries classified into five different categories, built a naïve Bayes classifier to predict these categories for future queries.
Collaborative Filtering : Matrix Factorization	Implemented collaborative filtering from scratch to make recommendations to users U for items I. Used a model based approach that applies matrix factorization to factorize a rating matrix (R) into User features (P) and Item features (Q).
Quantum AI	
Quantum Artificial Neuron	Implemented the quantum information-based algorithm proposed by Tacchino et al., which is a quantum model of a binary-valued perceptron.

Certificates:

- Deep Learning Online Bootcamp
- Getting Started with Natural Language Processing

- Introduction to Career Skills in Data Analytics

Languages and Tools:

Data Analysis & Visualization

ML / DS

Web Development

DBMS

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