

UMER ARSHAD

Umer.arshad101@gmail.com • +923365017444 • [Portfolio Website](#) • [LinkedIn](#) • [Github](#)

EDUCATION

Data Science and Machine Learning Coursework

Sept 2023 - Present

- HarvardX CS50's Introduction to Computer Science
- Google Advanced Data Analytics Professional Certificate
- Python for Everybody Specialization, Coursera (University of Michigan)
- SQL for Data science, Coursera (UC Davis)
- Machine Learning Specialization, Deep Learning Specialization, Natural Language Processing Specialization and TensorFlow Developer Professional Certificate, Coursera (DeepLearning.AI)

National University of Sciences and Technology (NUST), Pakistan

Sept 2015 – July 2019

Bachelors of Science in Civil Engineering

TECHNICAL SKILLS

Languages: Python, JavaScript, C, SQL, MATLAB

Libraries & Frameworks: Numpy, Pandas, Scikit-learn, TensorFlow, Keras, Matplotlib, Plotly, Flask

Databases: MySQL, SQLite

PROJECTS

Recommendation systems

- Designed and implemented a course recommender system. Conducted extensive exploratory data analysis (EDA) on course-related datasets; engineered features by extracting text-based “bag-of-words” representations and computed cosine similarity to quantify course relevance.
- Applied unsupervised learning techniques (e.g., KNN, non-negative matrix collaborative filtering) and developed supervised learning models to predict course ratings.

Global Temperature Analysis

- Developed an LSTM model using TensorFlow to forecast global temperature trends, optimized hyperparameters to achieve a 20% reduction in validation mean squared error (0.08) compared to the baseline. Created an interactive dashboard to visualize temperature projections, highlighting a predicted 1.5°C rise by 2050.

Dataset Creation for Image Classification

- Developed an automated web scraper using Selenium and BeautifulSoup to extract car images and from Pakwheels.com, collecting over 40,000 raw images. Cleaned the dataset and created a data pipeline using TensorFlow to prepare the dataset for image classification task.

WORK EXPERIENCE

National Highway Authority

Islamabad, Pakistan

Junior Engineer (Contract Engineer)

Mar 2020 – Dec 2023

- Managed contractual and legal communications with stakeholders, efficiently administered project data to streamline claim management processes and generated valuable insights for decision-makers. Successfully resolved Claims worth about PKR 20 billion.

National Engineering Services Pakistan

Islamabad, Pakistan

Trainee Engineer

Nov 2019 – Feb 2020

- Conducted site inspection & visits to monitor ongoing work, ensuring conformance with specifications.

LEADERSHIP AND ACTIVITIES

NUST Olympiad

Islamabad, Pakistan

Coordinator Resources

Sept 2018 – Mar 2019

- Managed finance, logistics, social events and accommodations of a national-level event while leading a team of 200+ students in affiliation with the student affairs department of NUST. Successfully brought a record-breaking intake of a 5000+ audience and a profit generation of PKR 2.3 million.

The Adventure Squad

Islamabad, Pakistan

Founder

May 2017 – July 2019

- Implemented data-driven strategies by analyzing market trends and customer data to strategically plan tour destinations and optimize itinerary schedules, resulting in improved customer retention and fostered business growth.

NUST Community Services Club

Islamabad, Pakistan

Member

Sep 2016 – May 2019

- Volunteered in different community service projects in NUST including but not limited to Al-Qalam (a fundraising initiative aimed at supporting underprivileged individuals) and Street Store (a project dedicated to collecting and distributing clothes to those in need).