ALI HASNAIN

AI ENGINEER

📞 +92-3423987710   ✉ alihasnain2k19@gmail.com   in LinkedIn   ⏺ Github   🌐 Portfolio

📍 *DHA Phase-II, Beside GIGA MALL, Islamabad*

EDUCATION

Mehran University of Engineering & Technology Jamshoro   **2019 − 2023**
*B.E - Computer Systems Engineering - **CGPA** - 3.41/4.00*   *Jamshoro, Sindh Pakistan*

COURSEWORK / SKILLS

- Data Science
- Big Data Analysis
- Exploratory Data Analysis
- Machine Learning and
- Deep Learning
- Computer Vision
- Python Programming
- MySQL
- Data Structure
- MS Office (Excel, PowerPoint, MS Word)
- Statistics
- PowerBI
- Problem Solving
- Communication Skills
- Team Coordination

EXPERIENCE

AI Engineer | *Lyceumerce* | *Mar 2024–Present*   **Islamabad, Pakistan**

- SAINCUBE - Smart Artificial Intelligence Networks Center For Ubiquitous Engineering!
- Design and develop machine learning models and algorithms to address business challenges such as recommendation systems, personalized shopping experiences, and predictive analytics.
- Implement and optimize AI solutions to improve search relevance, customer segmentation, and product categorization.
- Work closely with data engineers to ensure robust data pipelines for training and deployment of machine learning models.
- Conduct experiments and analyze data to iteratively improve model performance and accuracy.
- Stay updated on the latest advancements in artificial intelligence and machine learning technologies, and actively contribute to the research.

Data Scientist - Metalink Systems | *Jan 2024–Mar 2024*   **Karachi, Pakistan**

- Leading data analysis and machine learning projects to optimize business processes.
- Developing and deploying predictive models for various applications using Python and TensorFlow.

Data Scientist - Fiverr | *July 2022–Present*

- Provided data wrangling, data analysis, and Reduced dimensionality and improved data analysis by extracting features. (Python, R, Excel)
- Utilized machine learning & deep learning techniques for automation. (CNN, YOLO, TensorFlow, Scikit-learn)

Data Analyst - VEZOW | *July 2022–Aug 2022*

- Utilized the machine learning model to predict customer churn. (Pandas, NumPy, TensorFlow)
- Extracted key observations & insights from data sources to drive decision-making. (MySQL, ML, DL)

Functional Data Scientist & Business Analyst - The Sparks Foundation | *Nov 2022–Dec 2022*

- Performed Exploratory Data Analysis on large-scale data sets to uncover insights & patterns in data.
- In depth knowledge extracted from the retailer's data.

PUBLICATIONS

- **A Hybrid Architecture Based on Deep Learning for Object Recognition for Autonomous Driving**
  International Research Journal of Innovations in Engineering & Technology (IRJIET) • *2023*

- **Impact of Digitalization on Social Entrepreneurship**
  Emerald Publishing Limited • *2023*

- **A Machine Learning Framework for E. coli Bacteria Detection and Classification**
  UMT Artificial Intelligence Review (UMT-AIR) • *2023*

PROJECTS

Smart AI-Based Boat for Marine Trash & Debris Collection | *Undergraduate Final Year Project*　　　**2022 - 2023**
- Implemented a Smart AI-Based Boat using deep learning and computer vision techniques to autonomously detect and collect marine debris.
- Designed an AI garbage collection system that detects and collects garbage from water bodies automatically, enhancing marine environmental conservation efforts.
- Developed and tested algorithms for real-time image processing and object detection under various environmental conditions to ensure reliability and efficiency in debris collection.

CLO-PLO Dashboard Development | *Educational Analytics*
- Developed a student performance dashboard to track Course Learning Outcomes (CLO) and Program Learning Outcomes (PLO).
- Implemented data preprocessing using Python to clean and prepare data from Excel files for analysis.
- Constructed a data injection pipeline to transfer preprocessed data into a MySQL database for further manipulation.
- Created an interactive Power BI dashboard, employing DAX queries and Transfer Data Query to enhance data visualization and reporting capabilities.
- Integrated the dashboard into a Django web application, enabling file upload and data visualization on the home page.

Development and Testing of Dutch Speech-to-Text Models with GPT-3.5 Correction | *Speech Recognition Technology*
- Evaluated and integrated advanced speech-to-text (STT) technologies for the Dutch language, focusing on real-time performance and acceptable latency.
- Conducted tests on two specific STT models from Hugging Face: *Jonatasgrosman/wav2vec2-xls-r-1b-dutch* and *Nvidia/stt_nl_fastconformer_hybrid_large_pc* to assess real-time Dutch speech processing capabilities.
- Implemented a real-time correction mechanism using GPT-3.5, enhancing transcription accuracy by contextualizing with preceding sentences.
- Performed regular checks and corrections after every four sentences to ensure high transcription accuracy and coherence.

SDG Data Annotation and Classification | *Machine Learning and Data Analysis*
- Developed an ML model to classify news articles into three Sustainable Development Goals (SDGs): No Poverty, Gender Equality, and Affordable and Clean Energy.
- Handled data preprocessing steps including tokenization, stop word removal, normalization, and stemming to prepare data for feature extraction using TF-IDF vectorization.
- Achieved an overall model accuracy of 92.89% on the validation set, demonstrating strong performance in categorizing complex data sets.
- Generated precision, recall, and F1-scores for each category, showing high effectiveness of the model: 91% precision and 97% recall for No Poverty, 96% precision and 82% recall for Gender Equality, and 96% precision and 92% recall for Affordable and Clean Energy.
- Utilized Random Forest algorithm to manage class imbalance and prevent overfitting, enhancing robustness and performance of the classification model.

Brain Stroke Analysis | *USA Team*
- Conducted Exploratory Data Analysis (EDA) on a stroke data set, examining factors like gender, age, hypertension, heart disease, and lifestyle habits.
- Analyzed age distribution among stroke and non-stroke patients, noting a significant increase in stroke occurrence in the age range of 40-80 years. Explored average glucose level variation based on work types, identifying higher levels among self-employed individuals.