

Muhammad Usama Irfan

📍 R Block, Model Town Extension, Lahore

☎ +92 332 5664333

✉ imusamairfan147@gmail.com

🌐 <https://www.linkedin.com/in/m-usama-irfan>

🐙 <https://github.com/UsamaI000>

WORK EXPERIENCE

Natural Language Processing Engineer, Algo.ai

2021 – Present

Projects:

Machine Learning Engineer, Senarios Pvt Ltd

4 Months

Projects:

- **Named Entity Recognition:** aimed to detect relevant entities in the data like Agent name, Customer Name, Address, Phone no etc. using latest Deep learning models like Transformers i.e. BERT and Longformers.
- **Recommendation System:** main aim was to design a recommendation system using some latest Deep Learning framework like Graph Convolution Neural Networks (GCN).
- **Visual Search Engine:** was aimed to create an Image Similarity engine to retrieve top-k results for given image from a collection of images. Used CNN based approaches to get features from images and then similarity metric for comparing distance between images.

Research Fellow, Intelligent Machines lab, ITU

6 Months

Projects:

- **Unsupervised Anomaly Detection** was aimed to identify anomalous samples from a given data distribution at test time. During training the model is trained on Normal medical data and learns the normal space with which we compare the test sample whether if it belongs to the distribution or not, if not then it will be considered as anomalous sample.

Freelance Data Scientist

1.5 years

Tasks:

- Performing tasks related to Data Cleaning and Preparation, Data Analysis and Data Visualization. Performing classification and prediction tasks on data using Machine learning and Deep Learning techniques.
 - Worked on projects involving some Text Classification tasks, Sentiment analysis, NER, Neural Punctuation, and Object detection for guns in images.
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| EDUCATION | Masters in Computer Science 2019 – 2021 <i>Information Technology University (ITU), Lahore</i> CGPA: 3.49 Major Subjects: Deep Learning Computer Vision |
| | Bachelors in Computer and Information Science 2015 - 2019 <i>Pakistan Institute of Engineering and Applied Science (PIEAS), Islamabad</i> CGPA: 3.39 |

PROJECTS

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| 04/2021 - 08/2020 | Toxicity in Urdu Language Project aimed to detect and identify toxic words that can be defined as curse words, abusive language or hate speech in Urdu language. Such identification can help us reduce bullying on social media and other platforms and perpetrators can be taken action against. |
| 06/2020 - 07/2020 | Emotion analysis in Covid-19 Tweets The Goal of this project was to perform sentiment analysis on Covid19 related tweets from different regions of the world to see how people felt about the pandemic and analyze the trend of emotions in different regions of the world during the Global Pandemic. |
| 05/2020 - 06/2020 | Covid-19 Chest X-ray Analysis The aim of this project was to perform classification task on Covid-19 chest X-ray data. The aim was to classify samples into three categories namely normal, pneumonia and Covid-19. |
| 10/2018 - 12/2018 | Learning to See in the Dark The objective of the project was to understand and work on a deep learning model for enhancing the image quality of low exposure images using CNN. |
| 09/2018 - 03/2019 | Smart Contract Management (BS-FYP) Provide an architecture based on smart contracts to model supply chains that have implications based on smart systems such as smart factories, Industry 4.0, and smart transportation, etc. |

TECHNICAL SKILLS

Data Wrangling, Exploratory Data Analysis, Machine Learning, Classification, Regression, Clustering, Computer Vision, NLP, Deep Neural Networks.

Language: Python

Data Preparation: Pandas, Numpy, NLTK, PIL, Scipy

Data Visualization: Seaborn, Matplotlib, Plotly

ML Framework: Sklearn

Deep Learning: Pytorch, Tensorflow, Hugging face, Colab, OpenCV

CERTIFICATES

Introduction to Data Science in Python (Coursera).
Introduction to Tensorflow for Artificial Intelligence.
Machine Learning and Deep learning Python for Data Science (IBM).

**CO-CURRICULAR
ACTIVITIES**

Member of Institute of Electrical and Electronic Engineer (IEEE).
Part of Management team for IEEE event CUST.
Participation in Sports events (Football).
Interest in Painting and Sketching.

REFERENCES

Available on Request.