

# Mirza Elaaf Shuja

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## EDUCATION

### ***Masters in Data Science***

Sep 2018 – July 2020

Information Technology University (ITU) | Lahore, Pakistan

- Machine Learning, Deep Learning, Big Data Analytics, Computer Vision, Information Retrieval and Text Mining, Pattern Recognition
- Offered Graduate Fellowship based on excellent academic performance (2019-2020)

### ***Bachelors in Electrical Engineering***

Sep 2013 – July 2017

National University of Sciences and Technology (NUST) | Islamabad, Pakistan

- Object Oriented Programming, Data Structures and Algorithms, Embedded System Design, Industrial Process Control
- Industry adjudged senior design project (IOT Electricity Meter) offered funding for product development during NUST SEECS Open House (2017)

## WORK EXPERIENCE

### ***Machine Learning Engineer***

Jun 2019 – Present

ADDO AI | Lahore, Pakistan

- Statistical Analysis of Enterprise Data and Insight Reporting
- POC development for different AI/ML use-cases (Fraud Detection, Customer Segmentation etc )
- Conducting Enterprise AI/ML Training Sessions
- Building scalable and resilient Training Pipelines (Tensorflow) and Deploying ML models (GCP, Flask)

### ***Machine Learning Researcher***

Sep 2018 – May 2019

Information Technology University (ITU) | Lahore, Pakistan

Research Projects:

- Textual MisInformation Analysis in closed social networks
- Unsupervised Image to Image Translation using Attention guided Cycle GANs
- Cross Cultural Study of Facial Emotion Recognition using Haar Cascade and CNNs
- Arrhythmia Detection and Categorization through ECG classification

### ***Firmware Engineer***

May 2018 – Aug 2018

BlueEast | Lahore, Pakistan

- Firmware Development and Testing for IOT enabled ORIENT appliances.
- Implementing SPIFFS storage on ESP8266 via Google's protobuf serialization, to store sensor data locally.

## TECHNICAL SKILLS

- Gathering and Analyzing enterprise data from disparate data sources and reporting insights to drive KPIs
- Design and development of *scalable* and *resilient* Machine Learning Training Pipelines and Model Deployments

*\* Higher Proficiency*

**Programming Languages:** Python\*, C/C++, SQL

**Tools and Technologies:** Git, Linux, Tensorflow\*, Pytorch, Numpy\*, Sklearn\*, Pandas\*, GCP, Hadoop, PySpark, OpenCV\*, NLTK\*, Spacy\*

## PROJECTS

### **Textual MisInformation Analysis in closed Social Network - Natural Language Processing (NLP)**

Research project in collaboration with MIT, QMUL and ITU, aimed at studying temporal and statistical properties of prevalent textual misinformation in semi-closed social networks (WhatsApp).

**Tools:** NLTK, SpaCy, Plotly, FuzzyWuzzy

### **Custom Named Entity Recognition (NER) in Patent Abstracts- Natural Language Processing (NLP)**

Built a custom NER model using SpaCy library to measure the percent of distinct domain technologies (Electrical, Mechanical etc) used in a device from its patent's abstract text.

**Tools:** SpaCy

### **Unsupervised Image to Image Translation using Attention guided Cycle GANs - Computer Vision**

Built an unsupervised Image Gender Swapping system using a dataset of unlabelled Male and Female Images from the CelebA Dataset. Architecture based on a NIPS 2018 paper was tweaked to fit our use case.

**Tools:** Tensorflow, OpenCV