

# Mirza Elaaf Shuja

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## EDUCATION

### *Masters in Data Science*

Information Technology University (ITU) | Lahore, Pakistan

2018 – Present

3.33/4.0

### *Bachelors in Electrical Engineering*

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

2013 – 2017

## WORK EXPERIENCE

### *Machine Learning Engineer*

ADDO AI | Lahore, Pakistan

Jun 2019 – Present

### *Research Assistant*

Information Technology University (ITU) | Lahore, Pakistan

Mar 2019 – Jan 2020

### *Firmware Engineer*

BlueEast | Lahore, Pakistan

Jan 2018 – Feb 2019

## TECHNICAL SKILLS

**Machine Learning Techniques:** Instance-based Algorithms ( K-NN, SOM); Regression Analysis (Logistic Regression, Linear Regression); Regularization Algorithms (Ridge Regression, LASSO); Classification (Naive Bayes, SVM, Random Forest, ); Dimensionality Reduction (LDA, PCA, t-SNE); Reinforcement Learning (Q-Learning); Monte Carlo Methods; Association Rule Mining (Apriori); Clustering (DBSCAN, Spectral, Hierarchical, EM-GMM); Deep Learning (CNNs, VGG, ResNet, RNN, LSTM, GRU); Image Segmentation, Object Detection (FCN, UNet, Mask R CNN, YOLO); Generative Methods (Vanilla GAN, CycleGAN, AGCGAN)

**Languages:** Python; C/C++; JavaScript.

**Tools and Technologies:** Numpy; Sklearn; Pandas; Tensorflow; Keras; Pytorch; Hadoop; Spark; GCP.

## PROJECTS

### **Unsupervised Attention Guided Image to Image Translation** [\[PDF\]](#)

Implementing an Attention guided Cycle-GAN to perform unsupervised image to image translation or Style transfer after training on unpaired image data.

### **Emotion Detection from Face Expression** [\[PDF\]](#)

Design and train a Haar Cascade + CNN model to classify Facial Expression of Pakistani Talk Shows into emotions and evaluate the bias introduced by the inherent racial bias of training data.

### **Arrhythmia Detection using ECG Classification**

Designed and Trained a Residual CNN to classify ECG waveforms into five different types of arrhythmia using keras with tensorflow backend.

## AWARDS AND ACHIEVEMENTS

- 100% Scholarship during Matriculation and 100% Scholarship during Intermediate (2009-2013)
- Industry adjudged Bachelors Final Year Project offered funding for product development NUST SEECS Open House (2017)
- Offered Graduate Fellowship during Masters(2019-2020)

## COMMUNITY INVOLVEMENT

- Visiting and distributing basic hygiene kits at Orphanages in Islamabad under the “Ghonsla” foundation and educating them about personal hygiene. (2017,2018,2019)
- Member of the “Street Store” organizing team which provide processed used clothing free of cost to the people in the poverty stricken areas of Islamabad. (2017,2018)