Mirza Elaaf Shuja

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EDUCATION

Masters in Data Science 2018 – 2020
Information Technology University (ITU) | Lahore, Pakistan

Bachelors in Electrical Engineering 2013 – 2017
National University of Sciences and Technology (NUST) | Islamabad, Pakistan

WORK EXPERIENCE

Machine Learning Engineer Jun 2019 – Present
ADDO AI | Lahore, Pakistan

Research Assistant Sep 2018 – May 2019
Information Technology University (ITU)| Lahore, Pakistan

Firmware Engineer May 2018 – Aug 2018
BlueEast | Lahore, Pakistan

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); Recommender Systems.

Languages: Python; C/C++.
Tools and Technologies: Tensorflow; Pytorch; Numpy; Sklearn; Pandas; Keras; Hadoop; Spark; GCP.
Graduate Courses: Machine Learning, Deep Learning, Big Data Analytics, Computer Vision, Information Retrieval and Text Mining, Probability and Statistics, Pattern Recognition.

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)
- Was selected for the UK government's KTP Associate Program (2019)

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)