


# Zaryab Muhammad Akram

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## EDUCATION

<b>National University of Sciences and Technology (NUST)</b> <i>Bachelors of Science in Computer Science, CGPA: 3.96/4.0</i> <b>Final Year Project:</b> Discerning Deepfake Videos using Deep Learning	Islamabad, Pakistan 2017 – 2021
<b>Eastern European Machine Learning Summer School (EEML)</b>  <i>Deep Learning and Reinforcement Learning</i>	Krakow, Poland (Virtual) Summer 2020

## WORK EXPERIENCE

<b>Undergraduate Research Assistant</b> <i>TUKL-NUST Research &amp; Development Center</i> <ul style="list-style-type: none"><li>Used Deep Neural Networks to update the level-set forcing term of classical segmentation algorithms</li><li>Applied Case Based Reasoning (CBR) to retrieve similar cases from Court Room records</li></ul>	Sept. 2019 – Present Islamabad, Pakistan
<b>Teaching Assistant, Data Structures &amp; Algorithms</b> <i>School of Electrical Engineering and Computer Science, NUST</i> <ul style="list-style-type: none"><li>Designed and graded quiz problems and homework assignments</li><li>Held weekly office hours to help students with their issues and queries</li></ul>	Oct. 2020 – Jan. 2021 Islamabad, Pakistan
<b>Machine Learning Intern</b> <i>VisionX Technologies</i> <ul style="list-style-type: none"><li>Designed and tested information extraction system for courier package label images</li><li>Implemented Named Entity Recognition on extracted text using a CNN-BiLSTM-CRF model</li><li>Explored Object Detection and Segmentation algorithms including Faster R-CNN and Mask R-CNN</li></ul>	Jun. 2019 – Aug. 2019 Islamabad, Pakistan
<b>Web Developer</b> <i>Nausal Technologies</i> <ul style="list-style-type: none"><li>Translated Photoshop designs into responsive webpages</li><li>Collaborated as an active member on a development team that valued clean code</li></ul>	Jul. 2018 — Aug. 2018 Islamabad, Pakistan

## PROJECTS

<b>Image Noise Reduction with Auto-encoders</b>   <i>TensorFlow, Keras, Matplotlib</i> <ul style="list-style-type: none"><li>Improved classification accuracy on noisy and corrupted MNIST images</li><li>Enhanced noisy input with a Convolutional Auto-encoder</li></ul>
<b>DCGAN - Deep Convolutional Generative Adversarial Network</b>   <i>PyTorch</i> <ul style="list-style-type: none"><li>Implemented DCGAN paper from scratch</li><li>Generated similar images for data augmentation</li></ul>
<b>Document Localization in Natural Images</b>   <i>TensorFlow, Keras, Pandas</i> <ul style="list-style-type: none"><li>Localized documents in natural images using Deep Convolutional Neural Networks</li><li>Achieved state-of-the-art results on ICDAR 2015 SmartDoc Competition 1 dataset</li></ul>
<b>Search Engine</b>   <i>Python, BeautifulSoup, Flask</i> <ul style="list-style-type: none"><li>Designed a scalable hypertextual Web Search Engine on the Simple Wikipedia Data Dump</li><li>Implemented a custom search index and Web Crawler</li><li>Developed a full-stack web application using Flask</li></ul>
<b>OpenTable - Contact-free Restaurant Management System</b>   <i>React, React-Native, Firebase</i> <ul style="list-style-type: none"><li>Developed a cross-platform mobile application for customers to place order through a QR code scan</li><li>Built a web-based administrator platform for managing orders and customizing menus</li></ul>

## CERTIFICATIONS

Machine Learning	Stanford
Deep Learning Specialization (deeplearning.ai) 	Coursera
Tensorflow in Practice Specialization 	Coursera

## TECHNICAL SKILLS

<b>Languages:</b> Python, C/C++, Java, MATLAB, SQL; basic proficiency with Assembly
<b>Machine Learning Frameworks:</b> TensorFlow, Keras, PyTorch, NumPy, Matplotlib, Pandas, OpenCV
<b>Web Frameworks:</b> HTML, CSS, Bootstrap, JavaScript, jQuery, PHP, React/React-Native, NodeJS, WordPress