Hamna Moieez

Curriculum Vitae

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Education

2016–Present **Bachelors of Engg. in Software Engineering**,
National University of Sciences and Technology (NUST), Islamabad, Pakistan.
CGPA - **3.43/4.00, EECS Statistics** - $\mu: 3.24/4.00$

2013-2015 **Higher Secondary School Certificate**,
Federal Board of Intermediate and Secondary Education.
Percentage - 83.0%

Work Experience

2019–Present **Research Assistant at TUKL-NUST R&D Center**, *NUST, Islamabad, Pakistan.*
TUKL-NUST is a research and development center setup by a joint collaboration of TUKL, Germany, and NUST, Islamabad advised by Prof. Dr. Faisal Shafait.
○ **Slum Mapping via Remote Sensing**
I am working on undergraduate research thesis with TUKL-NUST R&D Center on slum mapping and localization using satellite imagery. I am focusing on identifying slums and collecting datasets from satellite imagery in Karachi and Mumbai. My current focus is on building loss functions to characterize long-tailed distributions since in majority of slum datasets the foreground pixels are dominant. This work is being done in collaboration with SiPEO Lab at TUM, Germany and German Aerospace Center.

2018–2018 **Development Intern at CRIMSON Lab**, *NUST, Islamabad, Pakistan.*
Center for Research in Modeling, Simulation & Vision (Crimson) Lab is a research and development center setup to cater for modeling, simulation, analysis and optimization of complex research problems related to the disparate fields of ICT. Dr. Imran Mahmood.
○ **3D Modelling for VR based Games**
I worked as a development intern on creating VR based game in Unity. Specifically, I worked on creating destructible 3D objects in Blender and Unity 3D as per the requirement of the game plot.

2019–2019 **Content Writing Intern**, *TECHACKER, Islamabad.*
Techacker.net is a participant in the Amazon Services LLC Associates Program, an affiliate advertising program designed to provide a means for sites to earn advertising fees by advertising and linking to amazon.com.
○ **SEO Content Writing**
My work at TECHACKER included editing, writing and proofreading SEO articles and blog posts. I wrote series of tech related articles for the digital news platform. The link to my articles is HERE.

Academic Experience

2020–Present **Teaching Assistant for Artificial Intelligence Course**,
School of Electrical Engineering & Computer Science, NUST, Islamabad, Pakistan.
I am teaching assistant for the Artificial Intelligence (AI) course to junior year CS students. My work responsibilities are to design weekly lab work, mark quizzes, exams and grade end semester projects. Furthermore, I am responsible for resolving any issue a student might face in the course.

Extracurricular Experience

2018–Present **Web & IT Director**, *NUST Deep Learning Society*, Islamabad, Pakistan.
I am the Web & IT Director of NUST Deep Learning Society. NDLS was started to promote open research culture in deep learning and to develop a taste for academic literature and research in the undergraduate students. I built the society's website and am responsible for maintenance and editing. The link to society's website: `https://nustdeeplearningsociety.github.io/`

Projects

Distracted Driver Detection — An image classification task using a Kaggle dataset for the StateFarm Competition. I built a simplified VGG net for the multi-class classification task at hand for the task and then tested the performance of the model on the provided dataset achieving compareable results.

CupCake Management System — I worked on building an automatic cupcake ordering system to get rid of the manual fuss of cupcake ordering and selection, it included customizing the cupcakes of your choice and maintained a record of the bill and inventory facilitating both the manager and customers. It was built for Android based platforms such as smartphones and tablets and was written in Java and Kotlin.

Dictionary Desktop — Memory and time efficient dictionary implementation in C++ using Ternary Search Trees (TST's). The features included auto-completion of words and maintaining search history for the previously searched words. It was a semester project for DSA course.

Food Review Website — A go-to website for foodies built using Google's firebase web services. It was a web based platform for food reviews and was built using standard web stack. It was a semester project for the Web Engineering course.

Checkers Game — I built a GUI-based Checkers game for desktop in Java using JavaFX. It was the semester project for Object Oriented Programming (OOP) and was built following the OOP design patterns and programming paradigms.

Technical Skills

Programming — Python, Java, C++, C, SQL, C#

3D Modelling — Unity, Blender

Machine Learning — Tensorflow, Keras, OpenCV

Web Stack — HTML, CSS, Bootstrap, Javascript, jQuery, PHP, Python

MOOCs

- Convolutional Neural Networks for Visual Recognition
- Deep Learning with Tensorflow
- Introduction to Psychology
- Introduction to Animal Behaviour