

EDUCATION

COMSATS UNIVERSITY ISLAMABAD, LAHORE

MS/M.Phil. in Mathematics

- Major focused on Mathematical Biology/Mathematical Modeling
- **CGPA:** 3.5/4.00
- **Thesis:** “Dynamical Analysis of the Epidemic Models of COVID-19 and Influenza”
- **Supervisor:** [Dr. Sadia Arshad](#)

Labore, Pakistan

Sep 2021 – Jan 2024

VIRTUAL UNIVERSITY OF PAKISTAN

B.Ed. Secondary (1.5-Year)

- **Research Project:** “Impact of Practical Visualization Techniques for Conceptual Understanding and Problem-Solving Skills at High Schools in Punjab”

Pasrur, Sialkot, Pakistan

Oct 2022 – April 2024

PMAS ARID AGRICULTURE UNIVERSITY, RAWALPINDI

M.Sc. in Mathematics

- 16-Year education
- **CGPA:** 3.62/4.00

Rawalpindi, Pakistan

Sep 2018 – Sep 2020

GOVT. JINNAH ISLAMIA COLLEGE, SIALKOT (UNIVERSITY OF GUJRAT)

B.Sc. (Maths A-Course, Maths B-Course, Physics)

- 14-Year education

Sialkot, Pakistan

Oct 2015 – Aug 2017

CERTIFICATIONS

IBM Data Science

IBM-International Business Machines Corporation

- Professional Certificate mastering **10** comprehensive courses in approximately **5** months.

Coursera

Mathematics for Machine Learning

Imperial College London

- Specialization Certificate mastering **3** comprehensive courses in approximately **1** month.

Coursera

Machine Learning

University of Washington

- Specialization Certificate mastering **4** comprehensive courses in approximately **2** months.

Coursera

Stanford University & DeepLearning.AI

- Specialization Certificate mastering **3** comprehensive courses in approximately **2** months.

Coursera

MATLAB Programming for Engineers and Scientists

Vanderbilt University

- Specialization Certificate mastering **3** comprehensive courses in approximately **3** months.

Coursera

Python 3 Programming

University of Michigan

- Specialization Certificate mastering **5** comprehensive courses in approximately **3** months.

Coursera

IBM Applied AI

IBM-International Business Machines Corporation

- Professional Certificate mastering **6** comprehensive courses in approximately **3** months.

Coursera

Epidemiology in Public Health Practice

Johns Hopkins University

Coursera

o Specialization Certificate mastering 5 comprehensive courses in approximately 1 month.

Neural Networks and Deep Learning

DeepLearning.AI

Coursera

Introduction to Complex Analysis

Wesleyan University

Coursera

PROJECTS

Sentimental Analysis on COVID-19 Tweets using Python

Project Structure:

- Introduction and Loading our Dataset
- Text pre-processing
- Data Cleaning
- Sentimental Analysis
- Visualizing the Result

Tracking Objects in Video with Particle Filters

Built a particle filter from scratch, and use it track a target in a video. The process involves loading and displaying video frames, initializing a particle filter, computing errors, calculating weights and resampling particles, applying noise, and optimizing the particle filter. This results in accurate tracking of objects within the video sequence, ensuring robust performance and improved tracking outcomes.

Climate Geospatial Analysis on Python with Xarray

Project Structure:

- Load and getting familiar with NetCDF datasets
- Select and filter data through coordinates
- Visualize multidimensional and geospatial variables
- Apply simple operations over multidimensional data
- Apply grouped operations over multidimensional data
- Merge and concatenate datasets
- Interact with Pandas and export datasets

References:

- Copernicus website - there's a lot of climate data!
- Xarray documentation

Traffic Sign Classification Using Deep Learning in Python/Keras

Traffic sign classification is an important task for self-driving cars. In this project, the dataset contains 43 different classes of images. The project understands the theory and intuition behind Deep Learning and Convolutional Neural Networks (CNNs). Imports key Python libraries, and datasets, and performs image visualization. Performs image normalization and converts images from color-scaled to gray-scaled. Builds a Convolutional Neural Network using Keras with Tensorflow 2.0 as a back-end. Compiles and fits Deep Convolutional Neural Network model to training data. Assess the performance of the trained Convolutional Neural Network model and ensure its generalization using various KPIs.

CONFERENCES & SEMINARS

COMSATS UNIVERSITY ISLAMABAD, LAHORE

Lahore, Pakistan

One Day International Symposium on Mathematical Sciences

Dec 5, 2023

ABDUS SALAM SCHOOL OF MATHEMATICAL SCIENCES

Lahore, Pakistan

Mathematical Modeling and Scientific Computing for Industrial Research (MMSCIR)

Nov 2022

SKILLS & COMPETENCIES

- **Languages:** English, Urdu
- **Tools & Software:** VS Studio Code, MATLAB, Python, SQL, LaTeX, MS Office, Power BI, Tableau, Zoom
- **Programming:** Python, MATLAB Programming, HTML, SQL
- **Skills:** Data Science, Data Analysis, Sentimental Analysis, Spatial Analysis, Dynamical Analysis, Mathematical Analysis, Data Visualization, Machine Learning, Deep Learning, Artificial Intelligence, Creating Dashboards, Web Designing, Team-work, Communication, Problem-Solving, Office Productivity

REFERENCES

Reference-I

[Dr. Muhammad Hussain](#)

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Reference-II

[Dr. Sadia Arshad](#)

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Reference-III

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NOTE: Click on the names to see their profiles.