

# Zulfiqar Ali

Data Scientist/Researcher



Portfolio



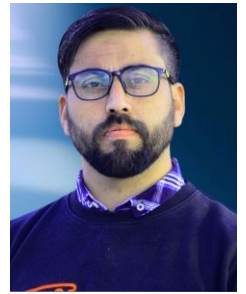
GitHub



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## EXPERIENCE

**SEJONG UNIVERSITY** | GRADUATE RESEARCH STUDENT DEPARTMENT OF OPTICAL ENGINEERING

September 2022 – continue | Center for Photonic Systems, Sejong University, South Korea

- Biomedical photonic imaging
- Artificial Intelligence in micro-endoscopy imaging

**NATIONAL CENTER OF ARTIFICIAL INTELLIGENCE** | DEEP LEARNING & COMPUTER

VISION ENGINEER

September 2021 – August 2022 | SmartCityLab, Karachi Pakistan

- Develops methodologies for the analysis, design, and control of autonomous systems
- Develops the theoretical foundations for networked autonomous systems operating in uncertain, rapidly changing, and potentially adversarial environments.

**COMSATS UNIVERSITY ISLAMABAD** | GRADUATE RESEARCH ASSISTANT IN STATISTICAL DATA

SCIENCE AND MACHINE LEARNING

September 2018 – August 2021 | Islamabad, Pakistan

- Used statistical data mining technique to collect large-scale survey dataset Hierarchical Bayesian modeling,
- Researched and studied children's behavior classification problems using semi-supervised learning techniques.
- Data preprocessing, missing value imputation on large scale data using Expected-Maximization and Bayesian algorithms.

## PROJECTS

**BioMedical Imaging** SURVEY ARTICLES -2022

- Deep learning models for microscopic imaging
- Meta-heuristic algorithms in image processing

**AgriDeepNet** | REACTJS AND PYTHON - 2022

- Machine learning based web application build using React and Flask.
- AgriDeepNet is used for recommending Crop and Fertilizers based on the soil features with remarkable performance of Deep neural network architecture.
- React JS is used to build the frontend part of the application.
- Flaskapi used as endpoints.

**AIChatBot** | PYTHON REACTJS - 2022

- Develop a chat bot web application using ReactJs, Python Flask, and Chatterbot.

**3DImageSeg** | PYTHON - 2020

- Semantic segmentation using deeplab.
- Tkinter-based GUI.

**Portfolio & cv** | REACTJS, BOOTSTRAP, NETLIFY, CSS - 2019

- Create a responsive portfolio using the latest web frameworks react, bootstrap4.
- Showing skills description and skill sets with repository links. [\[Link\]](#).
- CV format designed in Latex.

## SKILLS

PROGRAMMING

**Proficient:**

Python • SPSS • MATLAB

**Experienced:**

• LaTeX • R • SageMath • JavaScript • HTML • CSS • SQL

LIBRARIES/Frameworks

TensorFlow • PyTorch • Scikit-Learn

• Pandas • opencv & MediaPipe • Dlib • Matplotlib • Numpy • Tkinter • Seaborn • Django • Fastapi • Flask • NLTK • BeautifulSoup • jQuery • Node.js • Bootstrap

TOOLS/PLATFORMS

Git • WordPress • Docker • Tableau

Heroku • MongoDB

## EDUCATION

MASTER OF SCIENCE IN OPTICAL ENGINEERING |

August 2022 - Continue | Sejong University, Seoul

MASTER OF SCIENCE IN

COMPUTATIONAL MATHEMATICS |

COMSATS UNIVERSITY ISLAMABAD

Sept 2018 - Sept 2020 | Islamabad

Coursework in Applied & computational mathematics. GPA: 3.38

BACHELOR OF SCIENCE | UNIVERSITY OF GUJRAT

Sept 2012 - June 2017 | Gujarat

Relevant coursework completed in mathematics, statistics, and scientific programming. GPA: 2.81

COURSEWORK

Computer Applications • Information Systems • Programming Language for Mathematicians • Data Structures & Algorithms • Computational Linear Algebra • Numerical Computations • Fluid Dynamics • Probability and Statistics

## RESEARCH & PUBLICATIONS

A Survey on Lungs Nodule Segmentation and Classification- In progress

A Survey on Automatic Segmentation of Biomedical retinal image Segmentation - In progress

Children's Behavior classification Problem using Machine learning [Source code](#)

Sentiment analysis Web App Using Python and React [WebLink](#)

2D-Heat diffusion modeling and simulation using MATLAB.

## LANGUAGES

Fluent

BALTI | URDU | HINDI | ENGLISH

## COURSES & WORKSHOPS

- Data Science Workshop on Analysing PUBG Data
- DevOps workshop on Reboot the Web Landscape with DevOps and Cloud
- Deep Learning Specialization
- IBM Machine Learning Professional Certificate
- Fundamentals of Scalable Data Science
- Full Stack Web Development with Angular Specialization
- Introduction to Programming with Python and Java Specialization
- Advanced Data Science with IBM Specialization
- Advanced Machine Learning and Signal Processing.
- Advanced Machine Learning Specialization
- Front-End Web UI Frameworks and Tools: Bootstrap 4
- Introduction to Programming with Python and Java Specialization
- Exploratory Data Analysis for Machine Learning IBM
- Deep Learning and Reinforcement Learning IBM
- Deep Learning in Computer Vision HSE University
- Natural Language Processing with Classification and Vector Spaces DeepLearning.AI
- 4th International Conference on Image Processing and Machine Vision.

## REFERENCES

Tayyab Nawaz, University of Illinois at Urbana-Champaign USA ✉ [tnawaz2@illinois.edu](mailto:tnawaz2@illinois.edu)

Saqlain Raza, Imam Abdulrahman bin Faisal University Kingdom of Saudi Arabia

✉ [srrhussain@iau.edu.sa](mailto:srrhussain@iau.edu.sa)

## EXTRACURRICULAR ACTIVITIES

- Gym fitness freak and badminton player at inter university level
- Directing and advising junior graduate and undergraduate students in Thesis and Final year project related to Machine learning, Computer vision and Data mining.
- Rock climbing, reading technology blogs, software automation and Linux enthusiast.