

Faisal Khan

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Summary:

Experienced computer science research assistant skilled in Python, Java, JavaScript, C++, and Solidity. Expertise in machine learning, deep learning, computer vision, and NLP. Seeking admission to a master's program for advanced research.

Highlights:

- Machine Learning (ML)
- Deep Learning (DL)
- Digital Image Processing (DIP)
- Computer Vision
- Natural Language Processing (NLP)
- Keras, Tensorflow , Pytorch
- Python, Solidity, C++, JavaScript, java
- OpenCV, Scikit-Learn
- Software Testing
- Web Development (Front End)

IELTS: *Preparing for Exam*

Academic Qualification:

BS Computer Science at Islamia College, Peshawar

(August 2019 to September 2023) (CGPA: 3.81/ 4.0) (Score: 94.54%) ([ICP Website](#))

HSSC at Peshawar Cambridge Degree College, KP Peshawar

(September 2017 to September 2019) (Score: 79.71%)

Experience:

Research Assistant at Digital Image Processing Lab (ICP):

(January 2022 to September 2023)

- Research in different areas, providing guidance to new students.

Research Assistant at Smart Technology Lab (ICP):

(September 2022 to August 2024)

- Prepared and delivered lectures for Deep Learning as a Course Assistant at Smart Technology Lab, Department of Computer Science, ICP Pakistan, supporting both student understanding and curriculum goals.
- Assisted professors by organizing lab sessions, evaluating student performance, and providing academic support.
- Mentored Junior Researchers at Smart Technology Lab, guiding them in project development, research methodologies, and technical problem-solving within a collaborative learning environment.
- Monitored the progress of Junior Researchers, ensuring alignment with lab objectives, providing constructive feedback, and facilitating continuous improvement.
- Conducted research in various Computer Vision projects as a Research Assistant, including responsibilities

such as developing algorithms, analyzing datasets, and collaborating with team members for innovative solutions. Ensure that all the works meet the stipulated quality.

Administration Assistant at AL SHIFA || Saudi Arab

(September 2024 to Present)

- Organized and maintained office files, records, and correspondence to ensure seamless operation.
- Managed calendars, scheduled appointments, and coordinated meetings to optimize team efficiency.
- Provided administrative support to executives, including preparing meeting agendas and taking minutes.
- Handled petty cash, processed invoices, and assisted in budget tracking.
- Supported ongoing projects by organizing documentation, tracking progress, and ensuring deadlines were met.

Research Experience:

Research papers:

- Levenberg-Marquardt algorithm to examine thermal third grade non-Newtonian fluid using as a polymer for wire covering with variable viscosity
Elsevier (Published, <https://doi.org/10.1016/j.jrras.2024.101178>)
- Hybrid Model for Real-Time Mobile Snatching Detection in Video Surveillance Using Time-Distributed CNN and Attention-Based LSTM
Elsevier (Under Review)
- Deep Learning-based Abandoned Object Detection : Exploring Swin Transformer and YOLOv9
IEEE (Under Review)
- Machine learning approach using Levenberg Marquardt Artificial Neural Networks for Magnetized Ternary Hybrid Nanofluid across a Permeable Moving Wedge.
Separation Science and Technology (Under Review)

Projects:

- **Final Year Project in BS:**
 - Human Activities Recognition with Explainable AI.
- **Computer Vision Projects:**
 - (HAR) Human Activities Recognition with explainable AI. ([GitHub](#))
 - Classification problems. ([GitHub](#))
 - Image analysis using Transfer learning with Explainable AI.
 - UCF Crime video dataset classification using distributed training.
 - Malware Classification using Convolutional Neural Networks.
 - UCF 50, 101 .UCF-ARG datasets used for HAR using computer vision different technique.
 - Human activities recognition using Swin Transformer ([GitHub](#))
 - Ensemble Learning Approach for Classification of Network Intrusion Detection in IoT Attacks.
 - WBC segmentation using active learning/ Human-In-The-Loop (HITL)
 - WBC segmentation using computational offloading
 - Custom Dataset Lung cancer classification using transfer learning
 - Image based Malware classification using multi shot learning
 - Ensemble-classification , using optimal attributes for the detection of various iot Intrusion attack ([GitHub](#))
 - Text to image synthesis using Auto encoder (dual learning)
 - Skin Cancer classification using transfer learning
 - Skin Cancer classification using image and patient meta data fusion
 - Auto encoder for image using disentangled representation learning
 - Facial emotion recognition on FER2013 dataset using VIT (Affective computing)
 - Outlier detection using Inductive transfer learning
 - Abandoned object detection using custom sequential model with YOLOV8 localizer

- **Natural Language Processing (NLP) Projects:**
 - Research paper reader for visually impaired people ([GitHub](#))
 - Transformer based sentiment analyzer on custom dataset ([GitHub](#))
 - Transformer based question answering system ([GitHub](#))
 - Transformer based text generation ([GitHub](#))
 - Text summarization using transformer ([GitHub](#))
 - Transformer based Name Entity Recognizer (NER) using multi shot learning
 - Book recommender system using Doc2Vec embedder
 - Custom twitter data-based sentiment analyzer ([GitHub](#))
 - Spam classifier using transfer learning ([GitHub](#))
 - Close ended chatbot using rasa framework
 - Image captioning
 - Amazon product reviews sentiment analyzer
 - Automatic Speech Recognition (ASR) system
 - Speech emotion detector
 - Voice synthesis classifier
- **Other Projects:**
 - Sensor data Exploration/Analysis using pandas ([GitHub](#))

Programming and Development Tools:

- **Programming Languages:**
C/C++, Java, Java script, Solidity, Python
- **Software Testing Tools:**
Robot Framework, Selenium
- **Web Scraping Tools:**
Beautiful soup
- **Machine Learning Tools:**
Scikit-learn, TensorFlow, pytorch
- **Computer Vision Tools:**
OpenCV, TensorFlow, Keras
- **Web Application development:**
HTML5, CSS3, Bootstrap4, JavaScript, PHP, Apache

Achievement:

- Award fully funded scholarship at Higher Secondary School Certificate level (2017-19)

Volunteer Work:

- Organizer of Coding Competition at ICUP, Peshawar
- Campus Ambassador of a Blood Donation Organization (The Blood Heroes)
- Microsoft Learning Students Ambassador (Co Lead)

References:

- **Dr. Atif Khan, Ph.D.** (Universiti Teknologi Malaysia (UTM), Malaysia)
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