# ZIA UR REHMAN

Computer Engineer | Computer Vision | Embedded Systems | Machine Learning | Deep Learning

@ engrziaurrehman.kicsit@gmail.com
linkedin.com/in/zia-ur-rehman-217a6212b
github.com/ZiaUrRehman-bit
+92 336 9951634

## SKILLS

### Computer Languages

- Python, C, C++, Embedded C, Matlab, R, Verilog (HDL)

### Development Environment

- VS Code, PyCharm, Anaconda, GitHub, Google Colab, Kaggle, Raspberry pi, Ubuntu, Matlab, Proteus, Arduino IDE, MikroC for PIC Microcontrollers, MPLAB, PICkit-3, Xilinx, Vivado, FPGA (Artix-7), Atmel Studio, Microsoft Visio,

### Operating Systems

- Windows, Linux (Ubuntu), Raspbian OS

## RESEARCH INTEREST

- Computer Vision
- AI (Machine Learning/Deep Learning)
- Embedded Systems
- Robotics

## EDUCATION

- **Bachelors in Computer Engineering 2014 – 2018**

  **University of Engineering and Technology (UET), Taxila, Pakistan.**
  **Institute:** KICSIT, Rawalpindi
  CGPA: 3.77 / 4.0

- **Master in Computer Science 2022 – Present**

  **Institute of Space Technology (IST), Islamabad, Pakistan.**

## CERTIFICATIONS

- Python for Machine Learning (link)
- Face Detection with OpenCV in Python (link)
- Git Crash Course (link)
- Image Processing Onramp (link)

## ACHIEVEMENTS

- Gold Medal in BS Computer Engineering

- First division throughout academic carrier.

## EXPERIENCE

### KICSIT, IST | Lab Engineer | Islamabad, Pakistan
16th July, 2019 to Present

**AI Computer Vision Projects**

- **American Sign Language** Recognition (OpenCV, TensorFlow Keras)
- **Face Detection** Using Mediapipe Accuracy up to 99%
- **Object Detection** Software (OpenCV, YOLOV5)
- **Control Servo Motor Using Hand Gestures** (Robo Vision, OpenCV, Arduino)
- **AI Gym Trainer** | Curl Counter (OpenCV)
- **Hand Distance Measurement** Using Computer Vision
- **3D Brain Model Control** By Hand Gestures
- **Vehicle Counting** from Traffic Monitoring Camera
- **Contours Detection** | Object Detection
- **Text Detection** and recognition
- **Car Parking Management** Using OpenCV from Parking Camera
- **Finding the width and height** of an object using aruco library
- **QR Code Scanner** Using OpenCV

**Conduct the Labs in university, which include the following Subjects**

- Digital Image Processing, Microcontroller Application & Design, System Programming, Computer Vision, Machine Learning, Digital System Design, Circuit Analysis, Digital Logic Design, Microprocessor System Design, Embedded Systems Design

**MPI (Message Passing Interface) Using Python for Parallel Programming**
**Implementation of Machine Learning Algorithms (link)**
**Implementation of OS Scheduling Algorithms (link)**
**Comparative Analysis of Seven Programming Languages (C, C++, C#, Java, Python, Matlab, R) (link)**

### VISION INSIGHTA | Chief Operating Officer | Rawalpindi, Pakistan
17th Jan, 2023 to Present

**Industrial Projects (Computer Vision)**

- Development of **IDU (Interactive Display Unit)** for Stalls to automatically detect human being and starts the demo. User can also control the demo using hand gestures. (Raspberry Pi, OpenCV)
- Development of **IPC (Interactive Presentation Control)** to control the Power Point Presentation using hand gestures for conference hall. (OpenCV)
- Development of **Virtual Whiteboard** for conference hall to draw or write using hand gestures. (OpenCV)
- Gestures Control Robotic Car.

### BARQI LABS | Embedded Design Engineer | Rawalpindi, Pakistan
25thAug, 2018 to 12th Dec, 2018

**Industrial Projects (Embedded Systems)**

- **Project with Fauji Fertilizer Company** Sadiqabad: Design and Automate Score Board, Badminton court using PIC microcontroller, IR transmitter and receiver and seven Segments

### KSOFT KRL | Internee | Islamabad, Pakistan
13th July, 2016 to 24th Aug, 2016

**Projects (Embedded Systems)**

- **Hardware Interfacing of Pathology Lab Machine**

**Final Year Project (Under Graduate)**

**Electroencephalograph Based Wheel Chair (Mind Control Wheelchair).**