

Muhammad Ali

ELECTRICAL ENGINEER



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my Linkdin account

SUMMARY

Enthusiastic Electrical Engineering student with strong skills in Python, C++, and embedded systems. Passionate about AI, machine learning, and computer vision. Quick learner, team player, and eager to apply knowledge to real-world projects.

STRENGTHS AND EXPERTISE

- Python
- Data Structure and Algorithms
- Critical thinking
- Image Processing
- Machine Learning
- MySQL
- C++
- OpenCV
- ESP32
- Arduino
- Circuit Designing
- Matlab

EDUCATION

Bachelor of Science in Electrical Engineering(CGPA: 3.18)
Namal University Mianwali

NOV 2021 - Present

- Data Structure and Algorithms
- Computer Networks and Communication
- Machine Learning
- Digital Logic Design
- Control Systems
- Object Oriented Programming
- Digital Image Processing
- Introduction to Embedded Systems

CERTIFICATES & ACHIEVEMENTS

- Supervised Machine Learning: Regression and Classification(Coursera)
- Computer Vision and Image Processing Essentials(Coursera)
- Building Computer Vision Applications with Python(Linkdin Learning)
- Machine Learning with Python: Foundations(Linkdin Learning)
- Summer School on RISC-V Embedded Systems for industrial Applications
(Namal AI & Big Data Center)
- Participated at AI-Innofest 2024 Behria University Islamabad
- Received a Certificate of Appreciation from Namal Environmental Club for dedicated service as President

PERSONAL PROJECTS

1.Fiteligence:Real-Time AI-Driven Workout Assistant(FYP)

Developed Fiteligence, a real-time AI-driven workout assistant that uses Computer Vision (MediaPipe BlazePose) and LSTM-based anomaly detection to identify incorrect exercise postures and provide instant feedback. Collected and labeled video data for four exercises, extracted and normalized joint angles, and trained an LSTM model for posture classification. Integrated the system into a user-friendly web application to promote safe, sensor-free workouts and reduce injury risk

3.4-Bit ALU Design and hardware Implementation

Designed and implemented a 4-bit Arithmetic Logic Unit (ALU) capable of performing basic arithmetic and logical operations, including AND, OR, addition, subtraction, and XOR.

4. Autonomous Robotic Car with ATmega328P

Designed and programmed an autonomous robotic car using the ATmega328P microcontroller. Implemented sensor integration (IR, ultrasonic) for obstacle detection

5. Lung cancer classification using CNN

Developed and trained a CNN model to classify four types of Lung Cancer. Compared the model performance with EfficientNetB3

6. Transistor-Based Amplifier Design

Write Simulated and built audio amplifier using bipolar junction transistors (BJTs). Analyzed gain, frequency response, and distortion characteristics using tools like LTspice

7. Removing the Effect of Non-Uniform Illumination in Documents

Developed an image processing algorithm using Python and OpenCV to correct non-uniform illumination (e.g., shadows, uneven lighting) in scanned documents

EXTRACURRICULAR ACTIVITIES

President at Namal Environmental Club (11/2024 - Present)

- Organized eco-friendly activities like tree planting, climate campaigns, recycling, and waste segregation, while leading a volunteer team to promote sustainability

Namal Society for Social Impact (10/2022 - 10/2023)

- Teacher at education wing, gave free tuition to the near by deserving students