



# Muhammad Zafir

+92 309 1129572 | [muhammadzafir248@gmail.com](mailto:muhammadzafir248@gmail.com)

 [@MuhammadZafir](#)

 [@mzafir](#)

## EDUCATION

**NUST-National University of Sciences and Technology**  
**Aga Khan College Karachi**

(Physics, Mathematics, Computer Science)

**BVS Parsi High School Karachi**

(Physics, Mathematics, Computer Science)

*BE Electrical Engineering (5<sup>TH</sup> Semester)*

*Higher Secondary School Certification*

*Secondary School Certification*

## EXPERIENCE

**Machine Learning Internship | Arch Technologies, Islamabad (Remote)**

*Apr 2025-May 2025*

- Completed real-world software tasks under deadlines in a flexible, remote internship with mentorship and professional development.

**Robotics And AI Intern | BIDEK Solutions, Karachi (Onsite)**

*Jun 2025-Jul 2025*

- Built and deployed real-world robotics systems using Python and Arduino.
- Conducted technical training sessions on embedded systems at external platforms.

## PROJECTS

- **Mental Health Support Chatbot** (Python, Hugging Face, PyTorch, LoRA, NLP)
- **Generative AI Research Assistant** (Python, LangChain, Vertex AI)
- **Brain Tumor Segmentation** (YOLOv11, SAM2)
- **Library Management System** (Python, Data Structures)
- **Line Following Robot** (Embedded Systems, Motor Control)
- **Voice Controlled AI Chatbot** (Raspberry Pi, Google Cloud, OpenAI, IOT)
- **Auto-rotating solar panel** (Embedded systems, control systems)
- **Biometric Unlocking System** (Embedded Systems, Digital Logic)

## COURSES/CERTIFICATIONS

- **Deep Learning Specialization – DeepLearning.AI**
- **An Introduction to Programming the Internet of Things (IOT) Specialization**

*Dec 2024*

*Dec 2025*

## VOLUNTEERING & LEADERSHIP

- **Deputy Head Boy, BVS Parsi High School** – Led student council and organized events.
- **President, Debating Society, Aga Khan College** – Organized debates, grew membership by 30%.
- **Secretary General, MCSMUN** – Oversaw large-scale MUN conference.
- **Director of Marketing, BVSMUN** – Attracted 200+ participants.

## SKILLS

- **Programming:** Java, Python, C/C++
- **Web Development:** HTML, CSS, JavaScript
- **Embedded Systems:** Arduino, Microcontrollers, ModelSim, Keil, VS4000, Embedded Circuit Design
- **Software Tools:** AutoCAD, Proteus, EasyEDA, Multisim, Git/GitHub, Jupyter Notebook, SQL
- **Hardware Design:** PCB Design, Circuit Simulation
- **Data Science & AI/ML:** Pandas, NumPy, Scikit-learn, TensorFlow, OpenCV, LangChain, Prompt Engineering, RAG, Embeddings, Vector Databases, YOLOv8, SAM, Vertex AI

## RESEARCH AND PUBLICATION

**Enhancing Secrecy Capacity Using Reconfigurable Intelligent Surfaces in Line-of-Sight (LOS) Scenarios for Beyond 5G Networks**

**Short-Term Load Forecasting in Smart Grids Using Machine Learning: A Comparative Analysis of Regression-Based**