# Muhammad Abdullah Wasim

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## Education

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|---|---|---|
| **FAST - National University of Computer and Emerging Sciences, Islamabad.** | | |
| Bachelor of Science (Electrical Engineering) | | **2025** |
| **Major:** | Electronics | |
| **Government Jinah Islamia College Sialkot** | | **2021** |
| F.Sc (Pre-Engineering) | | |
| **Al Umer High School Sialkot** | | **2019** |
| Matric (Science) | | |

## Overview

Electrical Engineer specializing in **Electronics** with expertise in **Embedded systems, FPGA development, control systems, sensor fusion, IoT, and machine learning**. Designed an **FPGA-based Autonomous Quadcopter** with **INS and Extended Kalman Filter** for precise navigation. Experienced in **IC design, PCB development, and Verilog programming** through an internship at **NIE**. Skilled in **MATLAB, Python, HDL, and circuit analysis**, with a strong track record in **academic excellence and freelancing in embedded systems**. Passionate about autonomous navigation, robotics, and cutting-edge tech solutions.

## Projects

***Final Project:***

**FPGA-Based Autonomous Quadcopter**
Designed and implemented a Guidance, Navigation, and Control (GNC) system for a quadcopter. Initially developed on microcontrollers, then implemented the GNC algorithm on FPGA using HDL.

***Other Projects:***

**Neural Network Classifier**
Implemented a neural network model for data classification.
**Fuzzy Logic Drone Control**
Developed a fuzzy logic-based controller for yaw, pitch, roll, and thrust.
**IoT-Based Solar Monitoring**
Designed a solar monitoring system with data stored in InfluxDB and visualized on Grafana.
**Maze-Following & Fire-Detecting Robot**
Built an ATMEGA32-based robot programmed in Assembly for autonomous maze navigation and fire detection.
**Buck-Boost Converter for ROV Thruster**
Designed a voltage regulation system for underwater thruster power management.

## Work Experience

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|---|---|
| Intern at **National Institute of Electronics** in IC designing and Verilog basics. | **Jun 2023 – Aug 2023** |
| **Freelancing** in electronics and embedded systems | **2024 – Ongoing** |

## Skills & Tools

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|---|---|
| **Professional Skills** | Problem Solving, Adaptability, Team Management and Presenting |
| **Technical Skills** | Robotics, FPGAs, Control Systems, Machine Learning, IoT, Embedded Systems, Circuit Design, Circuit Analysis, PCB designing, VLSI, CAD tools |

## Achievements

**Gold Medal** in 3rd semester, **Silver Medal** in 2nd semester, **Bronze Medal** in 1st semester.

## Trainings / Certification

2-Days Workshop of Printed Circuit Board Designing at FAST-NU.
Machine Learning from freeCodeCamp.org.
15-Days Robotics Workshop by MRS.

## Activities

Games stalls in NaSCon'24.