Muhammad Abdullah khan

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Summary

I'm Abdullah Khan, a 6th-semester Electrical Engineering student at PIEAS with a strong passion for embedded systems, digital design, and robotics. Currently, I'm leading the development of a custom drone for Techno Fest, where I'm integrating my knowledge of control systems and real-time processing. I have hands-on experience with FPGA development, particularly in interfacing sensors like IR modules, and working with microcontrollers for projects such as IoT-based fingerprint door access, SPWM-based motor control, and audio amplification systems With a growing interest in signal processing, intelligent systems, and energy-efficient hardware, I'm driven to solve real-world problems through innovative, practical engineering solutions.

Education

Pakistan Institute of Engineering & Applied Sciences (PIEAS) Mar 2026
BS in Electrical Engineering
Leeds college May 2021
Fsc
Wensam school Aug 2019
Matriculation

Experience

English Head — PIEAS Literary Society Jan 2024 – Present

- Led the English section, organizing debates, poetry slams, and creative writing competitions.
- Enhanced participation by curating diverse literary events and fostering a culture of expression.

CAD Designer — Techno Fest Drone Development Team Mar 2024 – Present

- Designed and refined 3D models for drone components using CAD tools (e.g., SolidWorks/Fusion 360).
- Collaborated on structural and aerodynamic optimization to improve flight performance.

Skills

Web Development • Machine Learning • Python • Electrical Engineering Design • Team Collaboration

Certifications

CS50x – CS50 (in progress)

Projects

Custom Drone Development for Techno Fest
Led the design and integration of a multi-rotor drone, focusing on control systems, stability, and component selection. Contributed to CAD modeling, flight control, and embedded programming.
FPGA-Based IR Sensor Interfacing
Implemented Verilog modules on a Spartan-3E FPGA to interface with IR sensors, enabling obstacle detection and response in digital systems.
IoT-Based Door Access with Fingerprint Authentication
Designed a secure access system using ESP32 and an AS608 fingerprint sensor. Integrated Adafruit IO for real-time access monitoring and control.
SPWM Generator for Inverter Applications
Developed a sinusoidal pulse-width modulation (SPWM) generator using microcontrollers to drive a power inverter circuit efficiently.
Audio Amplifier Design for Embedded Systems
Built and tested a low-cost audio amplifier circuit optimized for integration with microcontroller-based audio output systems.