ABIAM ASIF KHALID

MECHATRONICS AND CONTROL ENGINEER

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EDUCATION

University of Engineering and Technology, Lahore **Expected May 2025**

BSc. Mechatronics and Control Engineering. CGPA 3.95/4.00

- Final Year Project: Augmented CPR+: An Augmented Reality Based CPR Assistant and Training Application

Beaconhouse College, Lahore **August 2021**

A'levels in Pre-Engineering and Computer Science. Grades 3A*, 1A

St. Peter's High School, Lahore **August 2019**

O'levels in Pre-Engineering. Grades 4A*, 4A

INTERNSHIP EXPERIENCE

Research and Proposal Systems, Avanceon **Jun 2024 - Aug 2024**

- Intern specializing in Industrial Control Systems (ICS) design, PLC selection, and network architecture
- Assisted in vendor management, technical proposals, and cable routing
- Attended Siemens training programs for industrial automation
- Developed automated solution pricing and documentation processes using Python to improve efficiency

BIOMED5.0 Project **Jun 2024 - Aug 2024**

- Integrated IoT sensor data into a cloud platform
- Developed an AR-enabled Android app using Unity3D and Vuforia
- Implemented MQTT for seamless cloud-device communication
- Project funded by the European Commission's EACEA under the Erasmus+ Capacity Building program

Workflow Automation at Mechatronics Department, UET. **Jul 2023 - Aug 2023**

- Automated Google Workspace workflows for task management, email reminders, data collection, and report generation
- Developed an online dashboard using HTML, CSS, and Looker Studio for enhanced data visualization and streamlined staff access

PROJECTS

Augmented CPR+ (FYP) **Expected May 2025**

- Developed a real-time CPR device using an FSR sensor for real-time CPR parameter communication via MQTT
- Created an AR application for NReal Glasses to display CPR parameters and hand detection
- Integrated a virtual model of the RESQPUMP CPR device into the AR application to enhance user training

Model Based Control of Quadcopter **January 2025**

- Developed LQR control for a quadcopter based on the F450 frame, considering all 12 states of quadcopter dynamics
- Derived and simulated dynamic equations for each state using MATLAB
- Integrated IMU (MPU6050) with a Kalman Filter for precise orientation estimation
- Designed a controller achieving a response time of 5 seconds

Automated Gluing Station **January 2024**

- Designed and developed conveyor-based gluing station using electro-pneumatic circuits
- Automated the process with 5 pneumatic cylinders and relay control

SKILLS

- **3D Modelling**
- **PLC Programming**
- **Hydraulic & Pneumatic Circuits**
- **Instrumentation**
- **Microcontrollers**
- **Computer Programming**
- **Control Systems**
- **Product Design**

ADDITIONAL INFORMATION

- **Languages:** English, Urdu
- **Certifications & Achievements:** IELTS overall band (7.5), CS50AI, Starting Up, 1st Rank Mechatronics Session 21, Cultural Exchange Germany (funded by DAAD), Ignite NGIRI Scholar, Participated in 8th DUHS-DICE Exhibition, Rhona Atkinson (Gold Medal), Bishop Samuel Azariah Award (Gold Medal), A' and As levels (Gold Medals)