Muhammad
Saad

CONTACT

✉ saadimtiazsial@gmail.com

📞 (+92) 3208817733

WORK EXPERIENCE

04/2021 – CURRENT – Pakistan

IOT Research and Development Engineer

Embedded Systems Lab - AU

- Developing Industrial standard Smart Energy Monitoring System
- Developing C++ firmware for Microcontroller (ESP32,FreeRTOS)
- Front end development and database (React & Python)
- PCB Designing for IOT Devices
- IOT Architecture Design and Development
- Embedded system design and analysis
- Design, Development and Testing for IOT based solution platform
- Developing Cross platform solutions for IOT System
- Data Analysis for Energy Consumption
- Data Management for IOT systems
- Documentation for IOT Solutions

10/07/2020 – 22/02/2021 – Pakistan

Mechatronics Engineer

Pakistan Aeronautical Complex, Kamra

- Designed, prototyped and verified thermomechanical subsystem of airborne AESA radar.
- Designed various cooling solutions for radar on SOLIDWORKS.
- Simulated the designed cooling solutions on ANSYS (Thermal and Structural Stress Analysis).
- Developed and maintained firmware (C++) for embedded platform.
- Created and managed documentation for active projects
- Interacted with teams and help with the development of customized embedded solutions.
- Tested and debugged embedded software.
- Developed hardware and software specifications
- Developed tools and techniques for testing and verification

06/2021 – 30/07/2021 – Germany

Automation Engineer

PRINTCORE, INC.

- Designed an embedded system to monitor and control automated conveyer belt (Altium).
- Developed embedded system hardware.
- Developed the algorithm to monitor and control various modes.
- Developed firmware (C++) for the microcontroller for control.
- Tested and Validated the system.

05/02/2020 – 27/04/2020 – United States

Automation Engineer

Newby Rubber Inc

- Automated a fully manual rubber moulding machine.
- Created HMI for the worker to interact with the machine.
- Designed the ATmega2560 based custom embedded system hardware (Proteus and Eagle).
- Developed the firmware (C++) for embedded system.
- Tested and verified the designed system.

EDUCATION AND TRAINING

2016 – 2020

Bachelor of Engineering - BE Mechatronics Engineering

PROJECTS

- **(FYP) Designed and Developed an Exoskeleton for Rehabilitation and Force Augmentation for Monoparesis Patients.**

- **Sarcos GUARDIAN | Balboa Inspection and Maintenance,USA**

- **3-Phase Motor Test Bed | TRIAD Limited,UK**

- **Green House Monitoring System | Negotia Kalibrierlabor GmbH,Austria**

PUBLICATIONS

- **Design of Portable Exoskeleton Forearm for Rehabilitation of Monoparesis Patients Using Tendon Flexion Sensing Mechanism for Health Care Applications**

  2021 https://doi.org/10.3390/electronics10111279

CERTIFICATES

- **Internet of Things and Embedded Systems | UNIVERSITY OF CALIFORNIA, IRVINE**

- **Python for Data Science and AI | IBM**

- **Python for Data Science, AI & Development | IBM**

DIGITAL SKILLS

Embedded Systems / C++ / Python / Internet of Things (IoT) / PCB Design / DS SOLIDWORKS / CATIA V5R21 / Microcontroller Programming / ANSYS / Product Development / RTOS / Arduino,ESP32,STM32,Teensy,RaspberryPi / Front End Development (HTML,CSS,React)