JEEVAT KUMAR

Karachi | +92 3352953731 | jeevatrassani20es@gmail.com | linkedin.com/in/jeevat-kumar-26299b215/

EDUCATION

B.E, Electronics Engineering *Jan 2021 – Dec 2024*
Mehran University of Engineering & Technology, Jamshoro
Relevant Coursework: Computer Programming, Embedded Systems, Embedded System Design, Artificial Intelligence

FINAL YEAR DESIGN PROJECT – FYDP

Real-Time Air Quality Monitoring System in Hyderabad, Sindh *Dec 2023 – Dec 2024*

- Developed and deployed a real-time air quality monitoring system using 4 IoT-enabled nodes, each covering a 5 km² area and measuring over 10 pollutants.
- Engineered reliable sensor interfacing for SEN55, SPEC 110-601, MQ7, and MG811, ensuring accurate pollutant detection and seamless data collection.
- Integrated ESP32 to transmit data to ThingSpeak for online visualization, funded by EPICS in IEEE and supported by IGNITE as part of the *Smart and Connected Systems (SACS) Research Project*.

Key Technologies: ESP32, IoT, Sensor Interfacing, Sensor Calibration, Real-Time Data Processing, ThingSpeak, Arduino IDE

SKILLS

Embedded Systems: Microcontrollers (Arduino, ESP32, STM32, ATmega), RTOS, Peripheral Integration.
IoT Development: Communication Protocols (I2C, UART, SPI), Cloud Platforms (ThingSpeak, Firebase).
Software Tools: NI Multisim, Proteus, MATLAB, LabVIEW, Arduino IDE, Keil uVision.
Hardware Design: Schematic Design, Sensor Interfacing, Calibration, and Debugging.
Programming: C/C++, Python, Embedded C, x86 Assembly Language.

PROJECTS

Smart Weather Station

- Designed and implemented a portable weather station using ESP32 to integrate sensors such as DHT22 and BMP180, enabling precise environmental monitoring.
- Programmed the ESP32 to transmit real-time data to the ThingSpeak server for efficient cloud-based visualization and analysis.

***Key Technologies*:** Sensor Interfacing, Circuit Prototyping, Arduino IDE, Proteus, C++, ThingSpeak, I2C Communication

Automated Irrigation System

- Developed a soil moisture-based irrigation system using STM32 and capacitive soil moisture sensors to automate water delivery based on real-time data.
- Implemented a GSM module for remote monitoring and control, enabling notifications and system management through text messages.

Key Technologies: ESP32, GSM Communication, Real-Time Data Processing, Sensor Interfacing

Autonomous Line-Following Robot

- Developed a compact line-following robot powered by ESP32, utilizing IR sensors for precise path detection and a motor driver module for smooth navigation.
- Designed and implemented real-time code functions for dynamic obstacle detection, ensuring efficient and reliable operation in varying environments.

Key Technologies: ESP32, UART Communication, Sensor Interfacing, Circuit Prototyping

LEADERSHIP TRAININGS

Aspire Leaders Program – *Aspire Institute Inc*. *Apr 2024*

- Completed leadership development course co-designed by Harvard faculty, focusing on strengths-based assessment, trust-building, and digital transformation.
- Engaged in global masterclasses and live interactions, collaborating with peers from 10+ countries to build community-focused strategies for digital transformation.

NextGen Leaders Program – *Do Well Do Good* *May 2024*

- Completed a *3*-week corporate training program, developing strategies for balancing professional success with social impact and engaging in team-based case studies.
- Collaborated in a Strategy Case Competition, presenting a solution that improved operational efficiency by *20%,* showcasing critical thinking and effective teamwork.

ACHIEVEMENTS

- Secured EPICS in IEEE funding and shortlisted for IGNITE (NGIRI) *2023-24* for community service project.
- Presented a poster titled **"Air Quality Monitoring and Mapping System for Hyderabad, Sindh"** at the *International Conference on Emerging Technologies in Electronics, Computing, and Communication (ICETECC'25)*, held at Mehran UET Jamshoro.
- Selected for the prestigious PepsiCo Pakistan Roshan program, recognized for leadership potential and growth.