



Mehak Sattar

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ABOUT ME

Results-driven Industrial Electronics Engineer with experience in smart systems, automation, and embedded solutions.

EDUCATION AND TRAINING

Bachelors in Industrial Electronics

Institute of Industrial Electronics Engineering [10 Dec 2021 – 10 Nov 2025]

City: Karachi | **Country:** Pakistan | **Website:** <https://iiee.edu.pk/> | **Level in EQF:** EQF level 6 | **Thesis:** AI-Assisted Brain Computer Interface for EEG- To-Text Communication

Completed a Bachelor's degree in Industrial Electronics Engineering, with major coursework in Embedded Systems, Industrial Process Control, Industrial Instrumentation, Power Electronics, Signals and Systems, and Digital Signal Processing.

WORK EXPERIENCE

🏢 *Pakistan Airports Authority – Karachi*

City: Karachi | **Website:** <https://paa.gov.pk/>

Electronics Intern

[14 Oct 2024 – 8 Nov 2024]

Monitored critical aviation systems including radar, communication networks and navigational aids
Assisted in maintenance activities across ECR, ACC, and Radar TR departments.
Conducted research on FDPS, ATMS, VCCS, ADS-B and radar surveillance systems.

🏢 *Fami Engineering – Karachi*

City: Karachi | **Website:** <https://fami.com.pk/>

Electronics Intern

[1 Oct 2024 – 26 Oct 2024]

Explored and compared competitive industrial solutions across multiple platforms.
Evaluated products and services from various companies to understand market positioning, marketing strategies, and industry trends.
Developed technical content and documentation related to electronic systems.

🏢 *Automation Play – Karachi*

City: Karachi | **Website:** <https://automationplay.teachable.com/p/home>

Instrumentation engineer

[23 Sep 2023 – 20 Oct 2023]

Gained in-depth understanding of PLC and HMI architectures, programming concepts and their integration in automation systems.

Developed foundational skills in SCADA development, including system structure and supervisory control functions.

PROJECTS

[10 Apr 2025 – 1 Nov 2025]

AI-Assisted Brain Computer Interface for EEG-to-Text Communication For my Final year project we developed a Brain-Computer Interface system using the **Neurocity Crown headset** for EEG signal acquisition and real-time command decoding. Implemented signal preprocessing pipelines, frequency-domain feature extraction, and classification using Python-based Machine Learning models, including KNN and Random Forest. Integrated the system with a React JS real-time dashboard for visualization of decoded EEG commands and system performance metrics.

Line Following Robot Designed and built an Arduino-based line-following robot capable of autonomously navigating paths using sensor-guided control.

AirSense Monitor Developed an Air Quality Monitoring System using sensors to measure environmental pollutants and provide real-time air quality data for analysis.

Real Time Data Logging System using ESP32 Implemented a real-time data logging system with ESP32 storing analog and digital inputs on Google Sheets every 10 seconds, integrating circuit design with API-based cloud storage.

LEADERSHIP EXPERIENCE

[10 Jan 2025 – 20 Oct 2025]

Marketing Head, Office of Innovation and Entrepreneurship (OIE), IIEE

Expanded outreach by connecting with diverse student groups and communities.

Contributed to the first-ever entrepreneurial event in the university, supporting planning and execution.

[5 Jun 2023 – 10 Jun 2025]

Founder and Chairperson, WIE IEEE IIEE Student Branch

Founded the first-ever women-oriented society on campus to promote empowerment.

Led 20+ events, managing planning, execution, and coordination successfully.

[10 Dec 2022 – 5 Nov 2024]

Founder & Secretary General, IIEE Student Council

Founding member of the Student Council, actively contributing to its establishment and growth.

Led 10+ student events, managing planning, coordination, and successful execution.

SKILLS

Technical Skills

Circuit Design / Lamination / Engineering Drawing / PCB manufacturing / Soldering

Software Skills

Simatic Manager / Matlab / Visual Studio Code / Python(basic) / Protues / WinCC / Canva / Lab View / Code Blocks / F PGA / AutoCad / Microsoft Office

CERTIFICATIONS

[Dawlance , 17 Jan 2025]

Sustainability Hackathon Runner-up Provided and pitched sustainability solutions at the 2nd International Conference on Technology-Driven Climate Action 2025, arranged by Dawlance Pakistan.

Mode of learning: Work based

LANGUAGE SKILLS

Mother tongue(s): Urdu

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Chinese

LISTENING A1 READING A1 WRITING A1

SPOKEN PRODUCTION A1 SPOKEN INTERACTION A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

VOLUNTEERING

[5 May 2025 – 10 May 2025] Institute of Industrial Electronics

University Plantation Drive

Participated in a campus wide plantation drive, contributing to environmental sustainability and green initiatives.

[10 May 2024 – 15 May 2024] Al Khidmat Foundation,Karachi

Test Conduction for Educational Courses

Assisted in conducting and managing multiple free training courses, ensuring smooth coordination and support for learners.

[1 May 2023 – 1 Jun 2023] Edhi Old Age Home,Karachi

Volunteer Support

Assisted elderly residents with daily activities, providing support and companionship to enhance their well-being.

[5 Sep 2023 – 1 Dec 2023] Zindagi Trust

Volunteer Support

Assisted underprivileged and government school students in preparing artwork for their art exhibitions.