

MUHAMMAD OSAMA SHAMIM

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EDUCATION

Institute of Space Technology
BSc. Avionics Engineering
CGPA: 2.63

Islamabad, Pakistan
July 2023

Roots School System
A' Levels
Cumulative Percentage: 72%

Islamabad, Pakistan
August 2019

Roots School System
O' Levels
Cumulative Percentage: 78%

Islamabad, Pakistan
August 2017

SKILLS

Programming Languages: Matlab, Python, C++

Visualization: Power point, using Matplotlib library on Python for graphical visualization

Data Management: Excel

Modelling: 2D and 3D Modelling on CATIA, CST

Technical: RF, AI, ML, Microwave, Radar, Antenna, Signal Processing, Digital Circuit Design

EXPERIENCE

SOLUNOX PVT LTD.
R&D Trainee

Karachi, Pakistan
Sep 2022 – May 2023

- Generated innovative ideas to drive company growth.
- Prepared comprehensive financial models to support proposed strategies.
- Developed persuasive pitch decks to communicate ideas effectively.
- Led consumer-hunting initiatives to identify target markets and opportunities for expansion.

PAKISTAN AERONAUTICAL COMPLEX
Intern

Kamra, Pakistan
Sep 2022 – Sep 2022

- Contributed to monitoring and assessing avionics manufacturing processes at a Kamra-based facility.
- Observed integration of avionics systems into aircraft and related quality assurance procedures.
- Engaged in collaborative discussions with industry professionals to understand best practices.
- Documented observations to support process improvement and deepen understanding of avionics production.

SOLUNOX PVT LTD.
Intern

Karachi, Pakistan
Jul 2022 – Sep 2022

- Led a team of five interns in the Electronics Department during the internship.
- Oversaw project assignments, ensured quality, and facilitated timely completion, while also engaging in marketing efforts to promote company products to investors, buyers, and collaborators.

TECHNICAL PROJECTS

Final Year Project| Image Processing Based Vehicle Speed Monitoring System

Jul 2023

- Developed real-time speed traffic sign detection system with YOLOv5 and transfer learning.
- Integrated Arduino Uno, Raspberry Pi 4, GSM module SIM900A, and GPS module for speed limit comparison.
- Implemented automated overspeed alerts by sending messages with vehicle speed, speed limit, and location.

Tri-wave Adjustable Function Generator

- Led a team in creating a versatile function generator producing square, triangular, and sine waves.
- Engineered adjustable duty cycles using the NE555-timer IC for enhanced functionality.
- Collaborated with team members to design, prototype, and thoroughly test the generator's capabilities.

Humidity & Temperature Varied Fan

- Used Arduino Uno to automatically regulate the speed of the fan according to the temperature and humidity level of the room. Used DHT11 sensor for this purpose. Engineered adjustable duty cycles using the NE555-timer IC for enhanced functionality.

Vehicle Lane Detection System

- Created a lane detection system using IR sensors and Arduino.

Four Element Chebyshev Waveguide BPF

- Simulated a Waveguide band pass filter to be used in Radar/Antenna Systems in CST

Aircraft Design

- Designed an aircraft on CATIA along with some of its components individually.

AWARDS AND DISTICTIONS

Received a Silver Medal for Academic Excellence in O' Levels.

Aug 2017