

# Sarmad Shoaib Ikram

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## EDUCATION

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**National University of Sciences & Technology**, CEME, Rawalpindi, Pk  
*Bachelor of Engineering in Mechatronics Engineering*  
**Cumulative GPA:** 3.04/4.00

**Sept 2023**

## TECHNICAL SKILLS

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**Programming:** Visual Basic, Python, C, C++, Rust, Bash

**Platforms:** Linux (Ubuntu, Mint, Fedora), ROS

**Hardware:** Raspberry Pi, Orange Pi, Banana Pi, STM, AVR, ESP32, Oscilloscope, NI myRIO

**Software:** SOLIDWORKS, Onshape, Fusion 360, ANSYS, ANSYS Granta, COMSOL, NI LabVIEW, PROTEUS, LTSPICE, NGSPICE, PySPICE, PSIM, Workspace, Github, TensorFlow, JetBrains CLion, MATLAB, ChatGPT Prompting

**Communication:** Engineering Drawing sheets, Design proposals, Technical Reports, Instruction Manuals, Presentations, Managing & Moderating 1500+ member groups

**Languages:** English (fluent), Urdu (fluent), Hindi (Conversational)

**Soft Skills:** 100+ WPM Typing Speed, Soldering, PCB Manufacturing, 3D Printing & Additive Manufacturing, Public Speaking

## EXPERIENCE

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**N-ovative Health Technologies** – Islamabad, PK

**Aug 2021 – Feb 2022**

*Design Engineer, Mechanical & Electrical*

- Aided in the redesign of a stent and catheter pushability and testing machine allowing for a modular and efficient loading process
- Modelled and improved a portable air purification respirator, increasing air flow by 24% and reducing chances of a blockage via dust buildup
- Hands-on design experience with Pakistan's first approved ventilator, stress testing pneumatic components and testing in-house instrumentation/sensors to interface with the machine's air flow control system

**CureMD** – Lahore, PK

**July 2022 – Sept 2022**

*Intern Engineer, Artificial Intelligence*

- Developed a web application for the purposes of collecting user medical data and integrated a chat bot to discuss possible treatment routes and recommended physicians
- Started the process of converting NCCN guidelines for myeloma and colon cancer into graph notation as the first step in creating an assistive AI communication tool that would keep track of a doctor's decisions and suggest recommended steps upon being fed test results and confirmed diagnostics codes.

## PROJECTS

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### **Collaborative SCARA**

Four degree of freedom collaborative robotic arm prototype with the goal of being used in small scale applications such as medical lab work automation, drilling for PCB fabrication, and/or educational purposes.

### **Gesture Controlled RC Drone and Car**

ESP-32 BT-BT control of a quadcopter and four-omniwheel car flown and steered with a custom flex-sensor imbued glove.

### **ESP32 + AVR Custom MOSFET H-Bridge**

Two separate fabrication which each type of microcontroller, ESP32-WROOM and Arduino Mega, for the purposes of NERC and personal learning; the H-bridge uses MOSFET drivers and Relays with accompanying bootstrap capacitors to drive motors rated at 24V.