



# Tayyab Shahid

To become part of an environment where I can learn, explore and be part of a creative and innovative team.

## EXPERIENCE

2025 - Present

### **GRADUATE RESEARCH ASSISTANT** – Sarkey's Energy Center, OU

- + Developed the first prototype of Terra Stinger, a real monitoring system for better well integrity of CCS wells using multi-array sensors connected with Raspberry Pi.
- + Part of Forge project as electrical system and 3D printing engineer.

2021 – 2023

### **RESEARCH ASSISTANT**– NCRA, Islamabad

- + Research Assistant at RDD Lab under Unmanned Ground vehicles domain
- + Part of Research team in development of UGV for industrial and agricultural applications
- + Certified Industrial Collaborative Robot UR5 programmer.

2018-2021

### **VISITING FACULTY** – National University of Science & Technology, Islamabad

- + Instructed Mechanical courses including Electronic Systems, Manufacturing Processes, Introduction to Robotics and many more.
- + Lead research associate at Robotics & Intelligent Systems Engineering

2012 - 2014

### **MECHANICAL DESIGN ENGINEER** – Connekt Lab, Islamabad

- + Developed successful project including Reliable Monitoring of Oil and Gas sensor, funded by Saudi Aramco
- + Designed and fabricated the enclosure mounting for Safety Sensor in high stress environment or SAHSE for Coal Mines in Pakistan

## EDUCATION

2025-Present

**MS in Petroleum Eng.** – Mewbourne College of Earth & Energy, OU (**GPA: 4.00/4.00**)

2011-2014

**MS in Mechatronics Eng.** – CEME, NUST

2007-2011

**BE in Mechatronics Eng.** – CEME, NUST

## PROJECT

2025	<b>Terra Stinger:</b> A real time monitoring unit with Multi-array sensors that can detect CO <sub>2</sub> plume movement in CCS wells for better well integrity and storage.
2025	<b>Forge Project:</b> Part of a team as an electrical system engineer for geothermal unit and designing a mini-size Packer using 3D printer.
2025	<b>Rock-Types Predictor:</b> Developed a supervised classifier to predict the rock-types, after clustering them using K-means through Well Logs.
2023	<b>Gas tank shell Inspector:</b> Part of development team behind interfacing a mobile UGV with list of sensors to inspect gas storage tank shell.
2021	<b>UR-5:</b> Programmer of UR-5 CoBot at RDDDL Lab
2015	<b>REMONG:</b> Developed a Reliable Oil and gas sensor system to measure the flowrate, temperature, pipeline inspection and other information.
2013	<b>SAHSE:</b> Manufactured an electronic system to provide safety assurance to coal miners against potential harmful gases like Methane and Carbon Monoxide

## TECHNICAL SKILL

**TOOL EXPERTISE:** Python, UR Script, C Language for Raspberry Pi, Solid Works, Autodesk Fusion, CNC simulator, MATLAB, Bambu Lab, COMSOL Multi Physics

## PUBLICATION

2021	Published a conference paper titled as "Joint angle estimation and control of a cable-actuated soft hand exoskeleton" at IEEE Conference (ICRAI'21) in Oct 2021
2016	Published a conference paper titled as "Optimization of SCR for Sensitivity Enhancement of Cantilever based Piezoresistive Sensor" at IEEE Conference (ICRAI'16) in November 2016.
2014	Published a conference paper titled as "To enhance the sensitivity of a piezoresistive sensor using Strength Concentration Region" at IEEE Conference (ICREATE) in April 2014.

## AWARD

2025	Presented Terra Stinger at Annual Conference meeting of CUSP 2025 at University of UTAH, Salt Lake City
2022	Finalist in Robothon 2022, a global event that deals with the e-waste management using UR-5 conducted by TU München
2014	Project "Safety Assurance for high stress environment" won first prize in Research & Development category in Pasha Awards.