

SHREY VERMA

+1 (650) 642-0210 | shreyv@stanford.edu | <https://www.linkedin.com/in/shrey0638/> | <https://github.com/zohan638>

EDUCATION

Stanford University

M.S. in Mechanical Engineering

Stanford, California

September 2022 – March 2024

Indian Institute of Technology Kharagpur

B.Tech. Mechanical Engineering | CGPA: 9.52/10

Kharagpur, West Bengal

August 2018 – April 2022

SUMMARY

Amongst my myriad interests, the ones that specifically stand out include Robotics, Mechatronics, and Mechanical Design. I aim to find a platform where I can lead a top-class robotics company to create large-scale technological innovations—securing a Gold medal in three consecutive Inter-IIT competitions and being awarded the best B.Tech. project and IIT Kharagpur Institute Order of Merit point out that Cross-cultural competence and leadership abilities are hallmark features of my work dynamics.

PROJECTS

Underwater Torque Sensor for Ocean One

September 2022 – Present

Mentor: Prof. Oussama Khatib, Stanford Robotics Lab. - Stanford University

Stanford, CA

- Designing and implementing an underwater torque sensor for the wrist of **OceanOne** rated for a depth of 1000m in salt water.

Haptic device for VR applications

September 2022 – Present

Mentor: Prof. Allison Okamura, CHARM Lab. - Stanford University

Stanford, CA

- Manufactured PCB for the haptic device for controlling six motors using Teensy 4.1; developing a more suitable hand tracking system using reflective markers and IR camera.

Silicon Labs' Social Entrepreneurship Challenge, Inter IIT Tech Meet 10.0

February 2022 – March 2022

IIT Kharagpur

Kharagpur, West Bengal

- Won a **Gold** by designing an IoT based truck monitoring system for fleet owners in India for the Inter IIT Tech Meet 10.0.
- The system monitors tyre pressure, axle bending, fuel volume, and driver drowsiness detection using NRF modules and LoRaWAN.

DAAD WISE21 - Puck Reset Mechanism - Robot Air Hockey

June 2021 – September 2021

Mentor: Prof. Jan Peters, Intelligent Autonomous Systems - TU Darmstadt

Darmstadt, Hesse

- Designed a Puck Reset Mechanism in **SolidWorks**, using a lead screw linear actuator(stepper), scissor mechanism(servo), and a tilt bed
- Tested the mechanism in **ROS**(RViz and Gazebo), controlled various actuators by publishing values to ROS topic using a Python Script.

RuTAG's Agrobot Design Innovation Challenge, Inter IIT Tech Meet 9.0

February 2021 – March 2021

Mentor: Prof. Aditya Bandopadhyay (Mechanical Department), IIT Kharagpur

Kharagpur, West Bengal

- Designed a Semi-Autonomous Modular Agricultural Robot for Inter IIT Tech Meet 9.0 and won Gold amongst the 22 participating IITs
- Finalized modular robot consisted of an **FWD**(differential drive) for locomotion, interchangeable sowing and planting modules, and a weeding subsystem; thus proving a **low-cost(710 USD)** solution to the marginalized farmers in hilly terrains.

Terrace Farming Robot, Inter IIT Tech Meet 8.0

October 2019 – December 2019

Mentor: Prof. Aditya Bandopadhyay (Mechanical Department), IIT Kharagpur

Kharagpur, West Bengal

- Manufactured Terrace Farming Robot for Inter IIT Tech Meet 8.0 held at IIT Roorkee and won Gold amongst the 22 participating IITs
- Developed an **X-cross Scissor-Lift Mechanism** to climb stairs of the height up to 43cm, and novel a module for **seeding and irrigation**

INTERNSHIPS

Reducing Electrical Resistivity (ER) of Baked Anode

June 2021 – July 2021

Mechanical Engineering Internship, Vedanta Limited - BALCO

BALCO, Chattisgarh

- Devised **Stringent Guidelines** for manufacturing of the Baked Anode by providing indispensable parameter values to be maintained.
- Achieved target ER value of 55.5micro.Ohm.m, ensuring a profit of **INR 28Lakh.pm**. Performance rated as **Excellent** by the guide.

MITACS GRI'21 - Lean Manufacturing Gamification(Legos)

May 2021 – July 2021

Mentor: Prof. Rafiq Ahmad, LIMDA - University of Alberta

Alberta, Canada

- Reviewed research related to Digital **Serious Games & Gamification** and their application in learning Lean Manufacturing techniques
- Designed the outline of the game, which intended to teach **5S lean manufacturing** in a **Digital Environment** using **Lego Blocks**.

TECHNICAL SKILLS

Experience: CAD Modelling(SolidWorks, Fusion360), Simulation(Ansys, MATLAB), Manufacturing(3D Printing, Lathe, Mill, CNC), Embedded Systems

Skills: Mechanical designing(CAD- SolidWorks, Fusion360, Simulation- Ansys, MATLAB, Simulink, ROS, Gazebo), Machining(Lathe, CNC, Mill, FDM 3D printing), Embedded systems(Arduino, Raspberry Pi, IOT-ESP8266), Control Systems