SAHIL T CHAUDHARY

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EDUCATION

Carnegie Mellon University *Pittsburgh, PA*
Master of Science in Mechanical Engineering – Applied Advanced Study *December 2024*
- **Current coursework:** Modern Control Theory, ML and AI for Engineers, Robot Dynamics and Analysis, Computer Vision for Engineers

Vellore Institute of Technology *Vellore, India*
Bachelor of Technology in Mechanical Engineering *August 2022*
- GPA: 9.05/10

SKILLS

Programming Languages: Python | MATLAB | C++ | R
Tools/Technology: SolidWorks | Ansys | Fusion 360 | CoppeliaSim (V-REP) | Raspberry Pi | Arduino Uno | Git

WORK EXPERIENCE

Biorobotics Lab *Pittsburgh, PA*
Graduate Research Assistant *August 2023 – Present*
- Working on designing the payload of RC Cars and a Quadruped Robot that are part of a convoy for mapping unseen environments.
- The aim is to make the payload lightweight, compact, and easily accessible to ensure serviceability.

ArcelorMittal Nippon Steel India Limited *Hazira, Gujarat, India*
Graduate Engineer Trainee – Corex Operations *June 2022 – March 2023*
- Ensured the smooth running of different processes such as conveyors, skip charging, coal blending, coal drying, slag granulation plant, and machinery involved in all the areas within Material Handling and the Corex Process
- Assisted and collaborated with Field Engineers to resolve problems such as malfunctioning, errors or issues with the equipment and machinery, ensuring safety, and productivity of the Plant

ACADEMIC PROJECTS

Re-sizeable Autonomous Cleaning Robot [GitHub] *January 2022 – April 2022*
Vellore Institute of Technology *Vellore, India*
- Designed and developed a Cleaning Robot that can re-size itself (between 30 cm and 50 cm length), using Fusion 360
- Conducted a simulation study using Ansys and CoppeliaSim (V-REP)
- Developed a physical prototype using Raspberry Pi 4, and programmed it using Python

Quadruped Robot [GitHub] *June 2021 – October 2021*
Vellore Institute of Technology *Vellore, India*
- Designed a Quadruped Robot with SolidWorks, by redesigning the legs with RRR configuration to increase total workspace
- Obtained the stable workspace of the robot with the redesigned legs using MATLAB
- Incorporated trot and canter gaits using Python, and performed simulation using PyBullet

Prosthetic Arm [GitHub] *January 2021 – April 2021*
Vellore Institute of Technology *Vellore, India*
- Fabricated a cost-effective Prosthetic Arm using SolidWorks, Arduino Uno and 3-D printing (using PLA)
- Reduced the material cost of the Prosthetic Arm by 18% using Topology Optimization
- Programmed the arm using an Electromyography Sensor and C++

Compact Foldable Treadmill [GitHub] *August 2020 – November 2020*
Vellore Institute of Technology *Vellore, India*
- Designed an easy to store, compact, and foldable Treadmill using SolidWorks
- Conducted Stress Analysis with Ansys to determine the Fatigue Life, and got a Factor of Safety of 4

EXTRACURRICULAR ACTIVITIES

- Selected as a Cadet in VIT-NCC (National Cadet Corps) for Republic Day and Independence Day Parade Contingents
- Joined as a Core Member of SAE-VIT student chapter, and hosted Tech Talks, gathered sponsorships for Automobile workshop, IDRL and Aerodominator events, and obtained components for Aeromodelling Workshop by SAE-VIT