OM GAIKWAD

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EDUCATION

Stevens Institute of Technology | Hoboken, NJ
Master of Engineering - Applied Artificial Intelligence, Computer Eng Concentration — Expected Dec 2025
Bachelor of Engineering - Mechanical Engineering, Robotics Concentration — Expected May 2025
Coursework: *Field Sustainable Systems with Sensors (LiDAR, Thermistor, Barometric Pressure), Circuits and Systems, Thermal Engineering, Heat Transfer, Autonomous Robotics, Python Programming*

WORK EXPERIENCE

SIT Prototype Object Fabrication (ProOF) lab, Robotics Engineer Intern | Hoboken, NJ — May 2024 - Present

- Developed isoparametric mapping algorithm of the robot workspace using **OpenCV** and **ComputerVision**
- Programmed a Path Planning Algorithm for Automatic Fiber Placement on a 2D surface using **Python**
- Developing a virtual testing environment for **DOOSAN H2125** collaborative robot using **MATLAB** and **ROS 2** resulting in more time effective lab operations

Charter Machine Company, Mechanical Engineer Intern | Metuchen, NJ — Jan 2023 - Jul 2023

- Designed brackets, support frames, and pneumatic components in **Autodesk Inventor** and performed **FEA**, and produced fabrication drawings pertaining to **DFMA**
- Optimized the **hydraulic system** to facilitate flow control and pressure control simultaneously, reducing the manufacturing cost by **15%** per project
- Produced over **200 assembly drawings** of the belt press machines with appropriate **GD&T** and **co-authored Operation Manuals** with Senior Engineers
- Conducted **field visits** to the assembly facility to assist with **fabrication operations**

Spartificial, AI Intern | Hoboken, NJ (Remote) — Jun 2022 - Aug 2022

- Developed detailed analysis on the image datasets of the surface of the moon with an objective to categorize safe landing surfaces for spacecrafts by performing **image processing using TensorFlow and OpenCV with Python**
- **Led a team of 6 students** to develop, test and validate the algorithm; delegated team operations
- Presented the final project to a panel of astrophysicists and achieved **93% accuracy rating**

ENGINEERING PROJECTS

Soft Exosuit for Spinal Muscular Atrophy (SESMA 3.0), ME Capstone — Jul 2024 - Present

- **Led the mechanical redesign** of the previous prototype version SESMA 2.0 Soft Exosuit meant for enhancing support for Spinal Muscular Atrophy (SMA) patients
- Design a **single dog clutch mechanism** to improve energy efficiency and reduce cable slack of the Exosuit
- Program **Seeeduino 4.3** to manipulate **DPS310 barometric sensor** and **Force Sensing Resistor (FSR)** in order to efficient data analysis and improve motion control on the prototype

Stevens Ankle-Foot Electromechanical (SAFE) orthosis, ProOF Lab Assistant — May 2024 - Present

- Create 3D CAD models of the leg scans of the subjects via **Artec 3D software** to facilitate prototype development
- Handle manufacturing and assembly of **PLA-CF** prototypes of powered ankle-foot orthoses (AFO) controller
- Assist with **torque and failure testing**, generate **structural analysis** and study the prototype to facilitate further improvements in product durability

SKILLS

Mechanical: AutoCAD, SolidWorks, ANSYS, Creo, LabVIEW, 3D Printing, DFMA, GD&T, Artec 3D, Six Sigma
Programming: Arduino, C++, Python, MATLAB, ROS, Open3D

LEADERSHIP

Chi Phi Fraternity (President), Society of Physics Students (Secretary)