Nila Narayan

nn257@cornell.edu | (203) 921-7423 | nila-narayan

EDUCATION

CORNELL UNIVERSITY | M.Eng in Mechanical Engineering — Ithaca, NY | December 2024
Relevant Coursework (*Currently Enrolled): Multivariable Control*, Model Based Estimation*, Fast Robots*, Systems Engineering Fundamentals*

CORNELL UNIVERSITY | B.S in Mechanical and Aerospace Engineering — Ithaca, NY | May 2024
GPA: 3.58 | **Minor:** Computer Science | **Honors:** Dean's List Fall 2021, Fall 2022, Spring 2023
Relevant Coursework (*Currently Enrolled): Feedback Controls, System Dynamics, Heat Transfer, Mechatronics, Fluid Mechanics, Computer Aided Manufacturing, Thermodynamics, Mechanical Properties of Materials, Dynamics, Statics, Mechanical Synthesis || Functional Programming, Object Oriented Programming & Data Structures, Discrete Math

WORK EXPERIENCE

TESLA | Dimensional Engineering Intern — Fremont, CA | May - Aug 2023

- Conducted **dimensional root cause analysis** for functional systems across different vehicle programs
- Developed and validated **dimensional locating strategies** in order to **minimize variation** and **optimize manufacturing**, communicating with various engineers throughout the design cycle
- Conducted **1D statistical analysis** in order to determine tolerances needed to meet system objectives
- Built and ran **3D models** to perform **variation analysis** across various vehicle subassemblies using **VSA and 3DCS**

DRAPER | Electro-Mechanical Engineering Intern — Cambridge, MA | May – Aug 2022

- Supported the development and testing of **high precision accelerometers** to improve their performance
- Expanded and implemented test fixtures for the characterization of **novel MEMS devices** to determine their viability before packaging
- Designed and made drawings for 10+ parts using **PTC Creo** and **Geometric Dimensioning and Tolerancing**.
- Performed modal analysis using **ANSYS** in order to optimize material selection

CORNELL ELECTRIC VEHICLES | Mechanical Team Lead, Driver — Ithaca, NY | Oct 2021 - Present

- Lead students towards designing and manufacturing the most **efficient, battery-electric vehicle** for the Shell Eco-Marathon, as well as preparing for **fully autonomous capability**
- Managed timelines, task assignments, meetings, design reviews, recruitment, and new member education for a team of **over 30 students**
- Oversaw **design, manufacturing, and testing** of the vehicle's drivetrain, steering, and chassis systems.
- Redesigned sprocket and chain transmission using ASME/ANSI standards for **optimized performance**
- Spearheaded the vehicle's **autonomous braking system** and testing-rig for the vehicle's **autonomous steering**

CORNELL COLLEGE OF ENGINEERING | Teaching Assistant — Ithaca, NY | Fall 2023, Fall 2021

- Current TA of System Dynamics, leading office hours, discussion sections, and lab sections
- Former TA of a course exploring the fundamentals of materials science

RECENT PROJECTS

"CUBE CRAZE" AUTONOMOUS ROBOT COMPETITION — Arduino, Circuits, CAD | Nov 2022

- Worked in a team of 3 to design a fully autonomous robot which could outperform its opponent in collecting cubes
- Designed circuits and programmed a variety of motors and sensors using an Arduino

SKILLS

CAD: Catia, PTC Creo, Solidworks, Autodesk Inventor, Fusion 360
Manufacturing: 3D Printing, Manual Mill + Lathe, Laser Cutting, CNC (Haas)
Tools: ANSYS, GD&T, 3DCS, VSA
Languages: Python, MATLAB, Java, OCaml, GCode