

VEDANSH GOENKA

I'm a self-motivated high school senior seeking to learn through collaboration on high risk/high reward projects at the intersection of additive manufacturing, robotics, and space exploration.

CONTACT

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SKILLS

3D MODELING & CAD/CAM:

- Fusion 360, OnShape, Creo, & Solidworks
- Blender & Meshmixer

3D PRINTING:

- PrusaSlicer, Slic3r, & Ultimaker Cura
- Compiling Firmware
- Gcode Optimization

MANUFACTURING:

- Drills, Saws, Routers, Grinders, etc.
- Calipers & Micrometers
- Polymer 3D printers (FDM, SLA, SLS)
- Metal 3D printers (DMLS)
- CNC Router/Milling/Lathe
- Laser & Vinyl Cutters

ELECTRONICS:

- PC Hardware
- Soldering
- Raspberry Pi & Arduino
- IOT Sensors

WEB DEVELOPMENT:

- HTML, CSS, & JS
- Bootstrap

CONTENT CREATION:

- Full Adobe Suite
- DaVinci Resolve

PROGRAMMING/SCRIPTING:

- Python/Jupyter & Java
- SQLite
- Shell/Bash
- Git

OTHER TOOLS:

- Office/Drive
- Command Line

WORK EXPERIENCE:

Lockheed Martin Space - Engineering Intern

Additive Design & Manufacturing Center (ADMC)

- Designed tooling to recapture unused metal powder for the X Line 2000R
- Performed material analysis (stress, strain, etc.) on manufactured parts.
- Basic machine operation and print optimization.

Solder Fatigue Analyst (Electronics Packaging)

- Learned electronic component properties relating to solder joints.
- Performed solder fatigue analysis using Excel and pre-derived formulas.
- Proposed component replacement recommendations to PCB Engineers.

Deployment Mechanism for 3D Printed Solar Array Truss

- Designed a precise, easily 3D-printable panel alignment mechanism
- Collaboratively designed a system to aid in a deployment demonstration for our customers.

NOTABLE PROJECTS:

VP of Engineering - Mitty Robotics Team

Chief Engineering Officer & responsible for the FRC Robot

- Mentored my peers in CAD, equipment operation, and project organization.
- Founded fabrication department & acquired funding for 3D printers & CNC.
- Co-led creation of 3D Printed Drone competition in response to Covid-19
- Team Awards: 2021 FIRST Software Award, 2019 Autonomous Award, & 5 more.

3D Printed CNC Router

Built a metal-capable 3D printed CNC from scratch

- Persuaded school administration (and robotics team) for funding.
- Designed/Built from scratch in my garage, capable of cutting aluminum.

Ongoing Entrepreneurial Venture - "Sentry Security"

An app interface for antiquated pre-wired security systems

- Enabling app-based configuration for alarm systems installed over 15 years ago.
- Alpha units deployed for over nine months; Publicly available Spring 2022.

State Level Science Fair

Won awards for a complex magnet-based fully 3D printed lock

- 1st Place @ Synopsys Science Fair & 2 other sponsored awards.
- 4th Place (Honorable Mention) @ California State Science Fair.

ACADEMIC BACKGROUND

Archbishop Mitty High School

Class of 2022

GPA: 4.6

Principal's Honor Roll (4.0+) - All 6 semesters

150+ Volunteering Hours

AP Courses:

Calculus AB & BC, Statistics, Phys C: Mech & Phys C: Elec/Mag, Computer Sci A, Eng Lit/Comp & Eng Lang/Comp, Microecon & Macroecon, US History, and World History (Lin. Alg. & Multivar Calc. H)

Club Involvement:

Robotics - VP of Engineering

Newspaper - Photographer

Mitty Advocacy Project - Gun Violence Prevention Member

Astronomy Club & Photography Club - Senior Member