

Pranav Gupta

Great Falls, VA | Durham, NC

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As a current college student pursuing dual majors in Mechanical Engineering and Computer Science, my objective is to leverage my strong analytical skills and interdisciplinary knowledge to contribute to innovative projects and solutions. My aim is to apply my expertise and passion for problem-solving to make meaningful contributions in a dynamic professional setting. Seeking Summer 2025 Internships. Willing to relocate.

Education

Duke University

B.S.E Mechanical Engineering; B.S. Computer Science

Aug 2023 - May 2027

Durham, NC

- GPA: 3.55

Technical Skills

Programming Languages Java, Python, C++, HTML/CSS, LaTeX, Git Version Control

Design Solidworks, Fusion 360 CAD and CAM, Onshape

Manufacturing Manual Machining, CNC Milling, Rapid Prototyping, MIG Welding, ProtoMAX Waterjetting, 3D Printing, Laser Cutting

Analysis ANSYS FLUENT, ANSYS Discovery

Other Microsoft Office Suite, Windows Software maintenance, Computer Hardware assembly

Engineering Experience

Duke Motorsports (Formula SAE)

Sep 2023 - Present

Powertrain Engineer

- Designed and optimized custom FSAE venturi-nozzle restrictor that decreased pressure drop.
- Created custom intake manifold which created even airflow between cylinders, increasing engine horsepower by 10%.
- Manufactured custom fuel rail to increase vehicle reliability and reduce complexity in intake manifold assembly.
- Manufactured steel and aluminum components using ProtoMAX waterjet, CNC mill, and other machining techniques.

Duke University

Jan 2024 - Present

LabRAT

- Advised 30+ engineering students on various academic projects for intro engineering coursework.
- Maintained 3D printers, Laser Cutters, and CNC Mills for student use.
- Organized various shop tools to streamline student workflow and project completion.

The George Washington University

June 2024 - August 2024

Summer Research Intern

- Created a fine-tuned LLM built from ChatGPT API that is capable of determining the best flight plan given certain parameters.
- Compiled and migrated autonomous driving simulations from SUMO to CARLA.
- Published paper in digital avionics journal: <https://shorturl.at/XCTx3>

Projects

Audrey II Replica

Durham, NC

- Developed a replica of Audrey II for Duke group Hoof n' Horn for their Little Shop of Horrors production.
- Collaborate with Hoof n' Horn directors to create design criteria for replica.
- Achieved a custom articulating device that is able to safely "consume" actors during play.
- Presented project in expo to Duke professors and administrators.

Go Kart

Reston, VA

- Designed and built custom Go Kart chassis using Onshape and various machining techniques.
- Collaborated with fellow team members to create design criteria for chassis.
- Achieved go-kart capable of 30 MPH.

Various Coding Projects

Durham, NC

- Coded autocomplete tool in Java using a Binary search and HashList approach.
- Designed Huffman compression algorithm that can compress and uncompress files in Java.
- Created custom portfolio website showcasing personal engineering projects.