Pranav Gupta

Great Falls, VA | Durham, NC

✉ p.gupta@duke.edu   🏠 pranavgupta.net   🔗 pranavg22

Current student at Duke University majoring in Mechanical Engineering and Computer Science. Currently a Powertrain Engineer at Duke Motorsports (FSAE) specializing in intake manifold and engine development. I also have experience in autonomous driving simulation through CARLA from previous research at GWU. I am a driven individual who aims to apply my expertise and passion for problem solving to make meaningful contributions. I excel in collaborative team environments. Seeking Summer 2025 Internships. Willing to relocate.

Education

Duke University   **Aug 2023 - May 2027**
B.S.E Mechanical Engineering; B.S. Computer Science   *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.

The Foundry (Duke University Makerspace)   **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 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 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 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.