Amogh Shrivastava

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GitHub Page | LinkedIn

EDUCATION

Drexel University — Philadelphia, PA
Bachelor of Science in **Physics**, concentration in **Astrophysics** — Anticipated Graduation: June 2029
Minor in **Mathematics** and **Computer Science** — GPA: 3.98

SKILLS

Softwares: Fusion 360, **Catia**, **AutoCAD**, LabVIEW, **MATLAB**, Mendeley
Programming and Other Languages: **C/C++** , MATLAB , **Python** , **JavaScript**, MySQL, **Bash Scripting** , Fortran

EXPERIENCE

Astrophysics Research — Drexel University, Philadelphia, PA
Research Aide — March 2025 - Present

- Working on the massive **Machine Learning** Project with **Independent Component Analysis** to study quasar spectra
- Developing **advanced mathematical methods and statistics** through Python to analyse the massive spectra data
- Collaborating with a team of more than a 100 researchers, attending Astrophilly 2025 conference

Biophysics Research — Drexel University, Philadelphia, PA
Research Aide and Students Tackling Advanced Research (STAR) — January 2025 - September 2025

- Developing software through **LabVIEW** and **C** to make the entire project possible and boosted efficiency by about 40%
- Collaborating with 6 other researchers to Conduct research on gamma hemoglobin and its structural behavior and period
- Assisting in **experimental design**, **data analysis**, and **interpretation** to support advancements in understanding hemoglobin pathophysiology and presenting the research poster at STAR poster showcase

ACTIVITIES / PROJECTS

Custom CFD Sim Software — March 2025 - June 2025

- Developed a fully functional **robust Computational Fluid Dynamics software** to analyse and then **optimize lift and drag** of any 3D CAD model from scratch using **Python Fortran and C++ Optimization**, tested its functionality and deployed it with a net reduction in 3% average computation time against industry standards

Orbit Simulation Software — January 2025 - March 2025

- Developed a new time stepping scheme for simulations in a **Python** based program that calculates and **simulates the trajectories of satellites** around planets using real data with two line elements and 0.7% boost in **numerical accuracy** to plot the trajectories of satellites using **Mathematical and Numerical methods**

Indian Ministry of Education (Innovation Cell)
Student Representative & District Member (SIC) — March 2020 - March 2024

- **Initiated a reform** with a national committee to make education more efficient and innovation focused which led to the Indian National Innovation and National Education Policy reform (2020)

ORGANIZATIONS

American Astronomical Society (AAS)
Society of Physics Students (SPS)
Aero Society of Automotive Engineers (AeroSAE)
Formula Society of Automotive Engineers (FSAE)

RELEVANT COURSEWORK

Computer Programming I, II	Probability and Statistics I	Calculus I, II, III	Multivariate Calculus
Computational Physics	Contemporary Physics I, II, III	Linear Algebra	Differential Equations

HONORS/AWARDS

STAR Scholar, Drexel University, July 2025 - September 2025
ASURS Scholar, Drexel University, March 2025 - Present
Dean's List, Drexel University
Dean's Scholarship, Drexel University, September 2024 to July 2029