

Saptak Das

Downingtown, PA

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Education

BS in Aerospace Engineering, Georgia Tech

Aug 2024 – May 2028

IB Diploma, Downingtown STEM Academy

Aug 2020 – Jun 2024

Summa Cum Laude | 4.0 Unweighted GPA

Experience

Software Developer, Georgia Tech Nonlinear Computational Aeroelasticity Lab

August 2024 - Present

- Developing algorithms and an intuitive user interface for a suite of operational analysis tools such as flight planning and environmental hazards for urban mobility VTOL aircraft operators.
- Adopting a modern, modular, and scalable software architecture in Python, C, and C++ using SOLID principles for the lab's software suite.

Research Assistant, GT Dynamics and Control Systems Lab

August 2024 - Present

- Developing perception, localization, mapping, planning, and control algorithms for autonomous racecars in the F1Tenth competition.
- Developed a reactive path planner using a robust disparity extender to navigate dynamic environments.

Senior Engineering Intern Manager and Data Analyst, nth Solutions

October 2022 – August 2024

- Developed essential algorithms and analysis methods as a primary inventor for a disruptive, removably-affixed tire balancer technology.
- Led core research team of 6 to apply novel Control Theory, Signal Processing, and State-Space Modeling Techniques such as the Wavelet Transform, Vold-Kalman Filter, and Operational Modal Analysis.

Honors

- Primary Inventor on Profit-Generating Patents - Created disruptive on-car tire balancer technology, which reduced labor and costs by 50%, at nth Solutions LLC
- Contributed novel EteRNA designs published in 2 Nature Papers on Combinatorial Optimization and Machine Learning Models of RNA Structure and Stability
- Winner of OneHacks Hackathon 2021 - Built powerful website to analyze Covid Twitter and News Sentiment

Key Skills

- FEA and CFD Simulations with Ansys
- Python, Matlab, C++, C, Git, Linux, Docker
- CAD (Solidworks and Onshape)
- Advanced Mathematical Modeling and Data Science (ML and DL) using Numpy, Pandas, SciPy, SciKit-Learn, and PyTorch
- Embedded Systems, Robotics, and Controls
- Full-stack Development (Database, Backend, Frontend)

Interests

- CFD using FVM in Ansys Fluent
- Control Theory (Optimal and Robust Control, System Identification)
- Programming and Automation
- CAD and Iterative Design
- Mathematics (Differentials, Fourier Analysis, Linear Algebra)

Links

LinkedIn

<https://www.linkedin.com/in/saptak-das1729/>

Patents

<https://patents.google.com/patent/US11988573B1>

Attorney Docket No. 689387-14U2 (Pending)

Attorney Docket No. 689387-14U3 (Pending)

Github

70 open-source projects | 2000+ commits

<https://github.com/Saptak625>

Certifications

Ansys (Cornell)

<https://tinyurl.com/ycyduupt>

Matlab (MathWorks)

<https://tinyurl.com/2ejsymc9>