Anthony Fine

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EDUCATION

Cornell University   2020 - Present, Graduation May 2024
Bachelor of Science   *Ithaca, NY*

- Engineering Physics Major, Computer Science Minor
- GPA: 4.01/4.0, Dean's List every semester
- Coursework: Machine Learning, Mathematical Physics, Planetary Image Processing, Materials Physics, Electronic Circuits, Nonlinear Dynamics and Chaos, Obj-Oriented and Functional Programming, Data Structures

WORK EXPERIENCE

NASA Langley Research Center   6/2023 – 9/2023
Research Intern with the Entry, Descent, and Landing Team   *Hampton, VA*

- Reconstructed and analyzed the atmospheric re-entry trajectory of the LOFTID mission from on-board video footage of the Earth and Moon
- Designed computer vision, photogrammetry, and Kalman Filter algorithms to create an accurate trajectory reconstruction out of challenging, scavenged data
- Successfully produced the only full attitude reconstruction for LOFTID, a great help to the mission as a whole

Comparative Planetology & Solar System Exploration Research Group   2/2023 – Present
Research Assistant with Prof. Alexander Hayes   *Cornell University Ithaca, NY*

- Investigated planetary surface properties of Saturn's moon Titan with radar backscatter signal processing
- Utilized MATLAB and ArcGIS to improve our understanding of terrain formation on Titan by fitting statistical models of its surface to radar signals from the Cassini spacecraft's flybys
- Integrated multi-modal data from the Cassini radar instrument into our models, leading to significantly more robust estimates of surface characteristics

The Technion Fluids & Elasticity Laboratory   6/2021 – 9/2022
Research Assistant with Prof. Amir Gat   *Haifa, Israel*

- Invented origami metamaterials for renewable energy storage and robot-assisted surgery
- Coordinated international collaboration to achieve interdisciplinary goals on metamaterials and energy storage

Cornell University Organic Robotics Laboratory   8/2019 – 9/2022
Research Assistant with Prof. Robert Shepherd   *Ithaca, NY*

- Developed renewable energy solutions; created 3D printed structures to efficiently harvest energy from ocean waves
- Designed and fabricated bio-inspired, soft robotic technology for ocean and space applications

AWARDS & HONORS

John McMullen Dean's Scholar   4-Year Scholarship

- The most prestigious award available from the Cornell University College of Engineering
- Recognizes outstanding achievements inside and outside of the classroom

Bill Nye '77 Fellow   2021

- Undergraduate research award from world-renowned science communicator Bill Nye "The Science Guy"

ASEE 2021 Conference Presentation Award Winner   2021

- Award recognition for exceptional research presentation on Fluidic Elastomer Beams as Energy Harvesting Pumps
- Won 3rd place out of 50+ undergraduate researchers as the only freshman attending the conference

SKILLS

Soft Skills: Thoughtful Communication, Interdisciplinary Collaboration, Teamwork, Curiosity, Creativity
Programming: Python, Java, MATLAB, Mathematica, OCaml, Julia
Expertise: Signal Processing, Computer Vision, Computational Physics