Emilio Gordon

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EDUCATION

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

B.S. Aerospace Engineering
May 2019 | Urbana, IL
Cum. GPA: 3.20

SKILLS

Programming

Python	Matlab	HTML
JavaScript	CSS	ROS
C++	LaTeX	Linux

Hardware

NX 10	ANSYS	STK
Arduino	LabVIEW	
Solidworks	Raspberry Pi	
TIG Welding	NX Thermal Sim	
Tensorflow		

COURSEWORK

Aerospace Control Systems
Incompressible & Compressible Flow
Mechanics of Aerospace Structures
Aerospace Dynamic Systems
Rocket & Electric Space Propulsion
Orbital Mechanics
(Lecturer & Instructor)
Intro to Satellite Development

AWARDS

2019 - Dean's List
2018 - Dean's List
2017 - Michael A. Miller Aerospace
        Engineering Innovation Award
2016 - President's Award Scholar
2015 - ITF Fifty for the Future

INTERESTS

Research

- Advanced Space Propulsion
- Interplanetary Exploration
- Machine Learning
- Robotics
- Computer Vision
- Mission Planning & Design
- CubeSat and SmallSat
- Entry, Descent, and Landing

RESEARCH

MULTI-MODE MICROTUBE-ELECTROSPRAY PROPULSION

Researcher   Aug 2017 – Present | UIUC

- Research and development into multi-mode propulsion under mentorship of Dr. Joshua Rovey
- Oversaw technological advancement from TRL3 to TRL5
- Performed thermal simulations using ANSYS to optimize thruster assembly configuration
- Developed data acquisition software for thermal test using LabVIEW
- Closely working with electric propulsion test systems including vacuum chambers, turbo-pumps and cryocoolers
- Developed a robotic system for scanning and characterizing microscopic structures with accuracy up to 10 microns
- Trained and implemented Tensorflow neural networks to detect microscopic channels on thruster surface

UAV RESEARCH

Undergraduate Researcher   Sep 2018 – Present | UIUC

- Implemented control algorithms for object avoidance, position tracking and state estimation
- Implemented fault-recovery for flight stability and control in a quadcopter with the loss of a single propeller.
- Research and development into intelligent UAV swarms under mentorship of Dr. Grace Gao
- Adapting methods of Q-learning and SARSA for distributed UAV swarm formation
- Contributed to open-source physics-based simulation models

SATELLITE DEVELOPMENT ORGANIZATION

Undergraduate Researcher   Aug 2015 – Mar 2018 | UIUC

- Co-writer of two NASA USIP proposals for $500,000 research grant
- Developed data acquisition software for pyrometric interferometry procedures using LabVIEW, improving test accuracy by 60%
- Clean room trained with experience working on satellite assembly
- Performed critical satellite ADCS tests using Helmholtz cage

ACTIVITIES

NASA BIG IDEA

Team Lead   Aug 2016 – Feb 2017 | UIUC

- Led a six person team in the design of a fully electric lunar space tug
- Applied a wide range of aerospace concepts to develop a modular, adaptable design for a lunar space tug

NASA MICRO-G NEXT

Co-Designer, Ed-Out Specialist   Nov 2015 – Jul 2016 | UIUC

- Designed and constructed a tool that can operate in neutral buoyancy
- Addressed current deep space exploration problems faced by NASA