

# Luke Bedrosian

luke@lukebedrosian.com • (224) 656-9310 • Washington, D.C. Metropolitan Area • www.lukebedrosian.com

## EDUCATION

### Texas A&M University

Bachelor of Science in Aerospace Engineering - Minor in Computer Science and Mathematics

May 2024

GPA: 3.76

**Capstone:** Resilient Communications Constellation (Sponsor : L3 Harris)

**Honors:** Magna Cum Laude, Engineering Honors, Presidents Endowed Scholar

### The Georgia Institute of Technology

Master of Science in Computer Science (In Progress)

May 2027

## SKILLS

Python, C++, Java, Jess, Wolfram Mathematica, GitHub, MOEA, Haskell, SysML, Qt, GUI Development, STK, Orekit, Free Flyer, Constellation Design

## WORK EXPERIENCE

### The Aerospace Corporation – Chantilly, Virginia

*Associate Member of Technical Staff, System of Systems Engineering Office*

May 2024 – Present

*Technical Intern, System of Systems Engineering Office*

May 2023 – May 2024

- Independently implemented various graph analysis algorithms in C++/Qt and worked as part of a software engineering team to incorporate them into an existing space architecture modeling and visualization software tool.
- Implemented probabilistic graph analysis algorithms using Monte Carlo simulation to estimate future performance of satellite networks.
- Used an agile workflow including using git/bitbucket and JIRA for managing tasks.
- Produced MBSE models of US cloud provider services (AWS, Azure, GCP, OCI, IBM) in SysML using the Cameo Systems Modeler for government customer's satellite ground enterprise.
- Led discussions with government customer to establish rapport, clarify objectives, and define project scope, goals, and deliverables.
- Led presentations of technical work and models to government customers in a clear and precise manner.
- Produced MBSE SysML activity diagrams for Concept Design Center study analyzing Starship mission concepts for Hubble return and proliferated low Earth orbit constellations.
- Implemented GUI Widget to display all network paths from one satellite to another, as well as sort them from lowest path weight to highest path weight

### Systems Engineering, Architecture and Knowledge (SEAK) Laboratory – College Station, Texas

*Undergraduate Research Assistant – Principal Investigator: Daniel Selva Valero*

December 2020 – May 2023

- Developed a software architecture (Python) from scratch to take in a set of satellite design variables and parameters, size the satellite using industry-accepted heuristics and theoretical equations, and output the satellite design along with a “performance score” to be used as an objective function as part of a Lockheed-Martin funded cognitive assistant tool.
- Implemented a multi-objective evolutionary algorithm (NSGA-II) using this architecture to explore the pareto front in the electric power system (EPS) design trade space.
- Developed a multi-fidelity satellite simulation tool (Python, Ruby) with hardware-in-the-loop under Undergraduate Summer Research Grant.
- Developed rules-based design algorithms (Java/JESS) using empirical relationships to size electric propulsion systems for satellites during early architecting phase.

## PUBLICATIONS AND PRESENTATIONS

### Representing and Analyzing Sequential Satellite Mission Design Decisions Through Anisomorphic Trees and Directed Graphs

Short, A.-R., Dutta, P., Gorr, B., **Bedrosian, L.**, & Selva, D. (2022) - AIAA SCITECH 2022 Forum

## INVOLVEMENT

### Paradigm Men's Organization – Texas A&M University

*President*

May 2023 – Present

- Serve an organization of 80+ members in service, philanthropy, and social initiatives by managing execution & coordination
- Run on and implement a platform that focuses on fostering passion, emphasizing fun within the organization, seizing opportunity, cultivating relationships, building a strong culture, and empowering members
- Established a 501(c)3 corporation named *Rock 'N' Reel* to maximize outreach and donations for fighting blood cancers

*Philanthropy Executive*

May 2020 – May 2023

- Created an implemented an annual philanthropy event, “Rock ‘N’ Reel,” with live bands, vendors, food, and a movie screening
- Increased philanthropy proceeds by over 300% and raised over \$15,000 for the Leukemia and Lymphoma Society