Luke Bedrosian

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EDUCATION

Texas A&M University May 2024
Bachelor of Science in Aerospace Engineering - Minor in Computer Science and Mathematics GPA: 3.8

Honors: Craig and Galen Brown Engineering Honors, Presidents Endowed Scholar
Skills: Python, C++, Java, Jess, Wolfram Mathematica, Autodesk Inventor, Solidworks, NX, GitHub, MOEA, Haskell, SysML, Qt
Honor Societies and Associations: Sigma Gamma Tau, Tau Beta Pi, AIAA, Texas A&M Aerospace Ambassador

WORK EXPERIENCE

The Aerospace Corporation – Chantilly, Virginia
System of Systems Engineering Intern May 2023 – August 2023

- 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.

Systems Engineering, Architecture and Knowledge (SEAK) Laboratory – College Station, Texas
Undergraduate Research Assistant – Principal Investigator: Daniel Selva Valero December 2020 – Present

- 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

Philanthropy Executive May 2020 – May 2023

- Started a new annual philanthropy event, "Rock 'N' Reel," and secured live bands, vendors, food, and a movie screening
- Increased philanthropy proceeds by over 300% and raised over $10,000 for the Leukemia and Lymphoma Society

AggieSat Laboratory – College Station, Texas
Chief Engineer, ALIGN: Aggie Lunar Information Gathering Network September 2021 – September 2022

- Led 30+ engineers in a proposal writing for the NASA Lunar Surface Technology Research program to develop a lunar rover
- Employed the NASA systems engineering process to develop lunar rover concept with a PDR presentation

NASA L'SPACE Mission Concept Academy – Tempe, Arizona August 2021 – December 2021
Team 30 Lead Engineer

- Gained greater insight into NASA mission protocols, procedures, and practices in a PDR Presentation
- Worked within an interdisciplinary team of students on developing a conceptual Mars ice-characterizing rover design