Luke Bedrosian

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SKILLS

Programming: C++ (Intermediate), Qt (Intermediate), Python (Intermediate), C (Basic), TensorFlow (Basic), Java (Basic), HTML/CSS/ JavaScript (Basic), Haskell (Basic)
Computing: Linux/Unix, Visual Studio, VS Code, PyCharm, IntelliJ, MATLAB
Workplace: Agile Development, Scrum, Git, GitHub, Bitbucket, Jira

EXPERIENCE

The Aerospace Corporation – Chantilly, Virginia
Associate Member of Technical Staff, System of Systems Engineering Office May 2024 – Present

- Develop (C++/Qt) and enhance features for a space architecture modeling and visualization tool to support the needs of government clients.
- Optimize the tool's performance and refine the user interface, resulting in increased efficiency and usability for end-users.
- Actively contribute to delivering software solutions that aid in the analysis and management of space enterprises, supporting critical government missions.
- Work as part of a software development team using Agile development methods that employ tools such as JIRA and Bitbucket.

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.

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) for an optimization program that determines optimal satellite electric power system design
- 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.

EDUCATION

Georgia Institute of Technology May 2026 (Expected)
Master of Science in Computer Science
Specialization: Machine Learning

Texas A&M University May 2024
Bachelor of Science in Aerospace Engineering - Minor in Computer Science and Mathematics GPA: 3.76
Capstone: Resilient Communications Constellation (Sponsor : L3 Harris)
Honors: Magna Cum Laude, Engineering Honors, Presidents Endowed Scholar, Chief Student Leader

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