Niels Leonardo Larsen: Aerospace Engineer/Systems Engineer

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Education

B.S Aerospace Engineering (University of Oklahoma) Expected May 2026
- GPA: 3.1 / 4.0 (Dean's List)

Professional and Technical Experience

Mechanical Engineering Intern (Bell Flight) July to August 2025
- Validated 4,000+ airworthiness requirements for merge review into the active airworthiness model.
- Engineered automated workflow tools (Power Automate + Python) that accelerated 3DExperience on-boarding, cutting manual interactions by 99.54%.
- Produced and validated 3DExperience components through the full compliance pipeline, including ITAR/EAR export controls and corporate IP protocols.
- Participated in Systems Risk Management via FMEA across multiple MV-75 subsystems, driving hazard-mitigation strategies and supporting comprehensive airworthiness assessments.
- Participated in recurring technical meetings between Bell and the U.S. Government, tracking alignment and compliance status for evolving airworthiness requirements.
- Created internal tooling documentation to support day-to-day team operations and standardize workflow practices, improving productivity.

Team President (Boomer Rocket Team) August 2024 to Present
- Achieved flight readiness approval for NASA USLI 2026, managing life cycle from PDR to FRR.
- Led and collaborated with a multidisciplinary engineering team focused on designing high-powered rockets.
- Designed embedded systems in C++ and Python using both Linux SBC's and RISC-V micro-controllers for onboard data processing, sensor fusion, for on-board payload enabling telemetry across over 2 km altitude.
- Managed a 16,250 USD team budget, allocating funds across sub-teams and mission activities to ensure successful project execution.
- Executed Validation & Verification for LoRa implementation through full verification matrix, ensuring minimal bit error rate and packet error rate and maximum consistency.

Mechanical Subteam Member (Sooner Rover Team) May 2022 to August 2024
- Performed GD&T on full scale Rover ensuring mechanical subsystems are properly sized for use.
- Contributed to rover mechanical design by modeling components and 3D-printing structural parts to improve durability and assembly efficiency.
- Optimized wheel geometry and material selection, reducing cost and print time by 30%.
- Collaborated with electrical and software teams to integrate mechanical interfaces, ensuring subsystem compatibility and reliable rover operation.

Personal Projects

Spider Bot: Fully 3D printed robot, taking advantage of open source hardware.
- **Scope**: Used inverse kinematics, SLAM, and PID controllers to control 6 legged spider bot using fully PLA printed limbs
- **Languages and Tools**: Python, ESP32/STM32, Sensor Fusion, Control Theory

Additional Skills

- **Languages**: Portuguese (Fluent), Spanish(Functional Reading and Writing), Swedish(Beginner)
- **Analysis and Production Tools**: UV, Docker, OpenFOAM, ANSYS Fluent + Workbench (3 years), SolidWorks(5 years), 3DExperience(1 year), MATLAB(5 years), Python(5 years), C++ (2 years), GD&T (4 years)
- **MBSE Tools**: Cameo Systems Modeller, 3DExperience
- **Academics**: Statics, Dynamics, Thermodynamics, Real-Time Systems, Solid Mechanics, Aerodynamics, Propulsion, Control Systems, Additive+Subtractive Manufacturing, Engineering Simulation, Flight Mechanics