Liam Smith

l.smith@columbia.edu | (404)-698-0410 | linkedin.com/in/liam-smith-766926305

Education

Columbia University - School of Engineering and Applied Sciences

Bachelor of Science - Mechanical Engineering, German   Expected May 2028 | GPA: 3.5/4.0

Relevant Coursework: Mechanics, Heat Transfer, Physics: Waves, Intro to Electrical Engineering, Data Science

Projects

Micro-G NExT EVA Tool Design Competition   Sept. 2024 - June 2025
- Engineered a mechanical EVA tool for grain orientation-preserving lunar regolith sampling as a part of NASA's Micro-G NExT EVA Tool Competition in a team of ~15 people.
- Co-authored a selected proposal (1 of 6 teams selected), designed the basis of a testing plan executed in the National Buoyancy Laboratory, conducted compliance analysis to satisfy NASA requirements.
- Prevented a 3-week project delay by identifying and implementing an alternative constant-force spring solution; eliminated $150 in redundant procurement costs and finalized the hardware integration within 7 days.

Columbia Space Initiative CubeSAT   Jan. 2025 - Present
- Designed and rapidly prototyped deployable mechanisms and structures in collaboration with external teams.
- Led creation of key documentation (Orbital Debris Assessment Report) required for FCC launch license.
- Validated radiative heat dissipation through thermal analysis on Ansys Thermal Desktop.

AIAA Design-Build-Fly Competition   Sept. 2024 - Present
- Conducting aerodynamic stability studies and CFD using SOLIDWORKS and MIT/Mark Drela's AVL software to describe aircraft stability, drag, and flight characteristics for a design report ranked 16th/112.
- Designing and prototyping wheel fairings and landing gear for 2026 competition plane, using Hyperworks CFD to optimize strength, drag, and mass characteristics, reducing wheel drag by 60%.

NASA Gateways to Blue Skies Forum   Sept. 2024 - June 2025
- Co-authored a NASA-selected (1 of 8 teams out of ~60) research proposal for NASA Gateways to Blue Skies Forum research and proposal challenge; solution combined.
- Presented technical and operational section to NASA and industry leaders, awarded $9,000 for selection.

Skills

Language: English (Native), German (Native), French (B2)

CAD/CAE: SOLIDWORKS, Fusion 360, Onshape, AutoCAD

Programming: Python, Java, MATLAB, Raspberry Pi

Simulation: CFD(Fluent, Altair Hyperworks, MIT AVL, SOLIDWORKS), FEA(SOLIDWORKS), Thermal Analysis(ANSYS Thermal Desktop)

Manufacturing: 3D-Printing, Waterjet, Lasercutter, Soldering, Metalwork, Woodwork

Norms and Regulatory: GD&T, NASA Debris Assessment Software, Documentation, FCC and NASA Standards

Leadership and Community Engagement

Columbia Student Council Engineering Student Groups Representative	Oct. 2025 - Present
Columbia Space Initiative Communications Chair	Apr. 2025 - Present
ASME Columbia Chapter Sophomore Class Representative	May 2025 - Present
Columbia Space Initiative Safety Officer/Responsible Person	Sept. 2025 - Present
SEDS-USA Fundraising and Logistics Volunteer	May 2025 - November 2025