

# Lillian MacKenzie Saub

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## EDUCATION

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**The University of Alabama**, Tuscaloosa, AL August 2023 – Present  
Master of Science in Aerospace Engineering  
Expected Graduation Date: May 2025  
GPA: 3.66/4.00

**The University of Alabama**, Tuscaloosa, AL August 2020 – May 2024  
Bachelor of Science in Aerospace Engineering  
Minors: Mechanical Engineering and Physics  
GPA: 3.76/4.00

## WORK EXPERIENCE

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**NASA – Kennedy Space Center**, Merritt Island, FL June 2024 – August 2024  
*3D Modeling Intern*, Design Visualization Lab

- Assisted in the use of 3D laser scanning equipment for reverse engineering
- Learned and utilized CATIA V5 for 3D modeling and drawing
- Worked with existing designs to prepare digital models for use in a simulated environment

**Ultra Safe Nuclear Corporation**, Seattle, WA May 2023 – August 2023  
*Nuclear Thermal Propulsion Fellow*, Brooke Owens Fellowship

- Invented characterization process for resin 3D printers
- Operated Siemens NX and Teamcenter for 3D part modeling
- Applied PrusaSlicer for preparing NX part files for 3D printing
- Designed and analyzed reactor shell for nuclear thermal propulsion engine
- Developed software design skills with Python and C++

## UNIVERSITY PROJECTS

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**Senior Design Project**, Tuscaloosa, AL August 2023 – May 2024  
*Skin and Attachments Engineer*, Aerostructures Design Team

- Formulated detailed vehicle integration instructions
- Utilized SolidWorks for 3D modeling and assemblies
- Validated structural integrity with ANSYS simulations
- Contributed to writing PDR, CDR, TRR, and PFAR reports

**Alabama Rocketry Association**, Tuscaloosa, AL June 2022 – January 2023  
*Chief Safety Officer*, Executive Board

- Planned, implemented, and enforced all safety guidelines
- Identified and assessed hazards, risks, and control measures for specific operations and processes
- Monitored and investigated organization accidents and injuries and provided preventative measures

*Design Team Member*, FAR Dollar Per Foot Competition August 2022 – January 2023

- Designated as safety officer for liquid bi-propellant engine water flow, cold flow, and hot flow tests
- Assisted in the preliminary design of the vertical engine configuration test stand
- Worked with fellow members to execute operations of the testing team

*Design Team Member*, NASA Student Launch Competition August 2021 – April 2022

- Assisted in motor selection and assembly for both sub-scale and full-scale launches
- Worked with team members to design and construct contest payload

## SKILLS

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**Advanced:** MATLAB, MATLAB Simulink, OpenRocket, SolidWorks, Microsoft Excel, Microsoft Outlook, Microsoft PowerPoint, Microsoft SharePoint, Microsoft Teams, Microsoft Word

**Intermediate:** Ansys Fluent, C++, GitLab, PrusaSlicer, Python, RockSim, Siemens NX and Teamcenter

### **INVOLVEMENT**

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Society of Women Engineers	Fall 2023 – Present
University Chorus	Spring 2022
Alabama Rocketry Association	Fall 2020 – Fall 2022
American Institute of Aeronautics and Astronautics	Fall 2020 – Present
Alpha Omega Epsilon – Beta Rho Chapter	Fall 2020 – Fall 2021

### **HONORS AND ACADEMIC ACHIEVEMENTS**

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Brooke Owens Fellow	Class of 2023
Dean’s List for The University of Alabama	Fall 2022, Spring 2022, Spring 2021, and Fall 2020
Tau Beta Pi – The Engineering Honor Society	Fall 2021 – Present
Alpha Lambda Delta – National Honor Society for First-Year Success	Spring 2021
Golden Key International Honour Society	Spring 2021 – Present
Sigma Gamma Tau – The National Honor Society for Aerospace Engineering	Spring 2021 – Present

### **COMMUNITY SERVICE**

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Church of the Highlands – Tuscaloosa  
Tuscaloosa Rocketry Challenge  
Honors Action – The University of Alabama  
Distinguished Young Woman of Nebraska  
Samaritan’s Purse – Operation Christmas Child