

# Audrey Wiebe

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## EDUCATION

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### University of Southern California, Viterbi School of Engineering

May 2028

Bachelor of Science, Astronautical Engineering

GPA: 3.86/4.00

**Relevant Coursework:** Introduction to Astronautics, Advanced Programming in Python, Calculus I, II, and III, Differential Equations, Statics, Materials Science, Physics: Mechanics and Thermodynamics, Physics: Electricity and Magnetism

## SKILLS

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**Languages/Tools:** MATLAB, Python, SQL, Agile SDLC Methodologies, Microsoft Excel, Multisim, Swift, Xcode, GitHub

**Soft Skills:** Teamwork, Communication, Leadership, Strategy Formulation, Adaptability, Flexibility, Innovation

## PROFESSIONAL EXPERIENCE

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### USC Rocket Propulsion Lab

Los Angeles, CA

#### Composites Team Contributor

September 2024 - Present

- Devote 5+ hours to surface preparation of student-built rocket, sanding the mandrel to optimize flight performance
- Execute precise cutting of 50+ carbon fiber components, ensuring fibers are placed accurately to enhance structural integrity
- Engage in weekly member meetings, collaborating with 30+ students to stay informed on project developments, receive task delegations, contribute to team discussions, and encourage new member participation for further engagement

### Kern Health Systems

Bakersfield, CA

#### Enterprise Development Extern

June 2024 - August 2024

- Formulated 100+ SQL queries to extract and organize healthcare data within Microsoft SQL Server Integration Services
- Upheld 40+ daily Scrum meetings, practicing Agile Development Lifecycle within Enterprise Development team
- Cooperated with database administrators to identify and eliminate 100+ obsolete databases, enhancing system efficiency
- Processed 15,000+ medical claims using Microsoft Excel and Electronic Data Interchange softwares

## PROJECTS

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### Boeing Freshman Design Challenge

March 2025

- Engineered an asteroid sample return mission concept in collaboration with three peers, integrating advanced collection techniques through extensively researching previous missions, battery storage, and power generation methods
- Optimized key mission parameters, decreasing duration by over 50% and allowing return of a 20 kg asteroid sample
- Illustrated spacecraft design, incorporating a robotic arm and specialized landing gear for anchoring and material collection
- Showcased feasibility through a data-driven presentation, earning third place in competitive evaluation by Boeing engineers

### OrbiClear Space Debris Removal

October 2024 - December 2024

- Co-founded OrbiClear, theoretical space debris removal company, in collaboration with three undergraduate peers
- Led the creation of a launchable, satellite-based system that utilizes a reusable SpaceNet attachment to capture, compact, and safely return orbiting debris to Earth for recycling, while also researching operational and financial implications
- Delivered a comprehensive presentation of the concept to a diverse cohort, earning first place based on popular vote

### Airfoil Redesign

October 2022 - November 2022

- Conducted in-depth research on airfoil and weight aspects of Zlín Z 42 aircraft, analyzing data to optimize design parameters
- Simulated airfoil using FoilSim software, adjusting angle of attack, thickness, and camber to achieve target L/D ratio
- Designed modified airfoil to replicate original aircraft's weight and lift while improving original L/D ratio by over 25%
- Documented over 7 design iterations, including airfoil sketches, performance calculations, and simulation results in notebook

## LEADERSHIP AND INVOLVEMENT

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### USC Society of Women Engineers

Los Angeles, CA

#### Corporate Committee Ambassador

September 2024 - Present

- Coordinate acquisition of over 5 company sponsors and assist in organizing bimonthly industry panels and networking events
- Build and maintain relationships with 10+ industry employers to secure career development opportunities for members
- Engage in weekly meetings with corporate committee and executive board, contributing to strategic planning for events
- Recruit women and non-binary individuals into Society of Women Engineers, fostering an inclusive engineering community