Audrey Wiebe

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EDUCATION

University of Southern California, Viterbi School of Engineering May 2028
Bachelor of Science, Mechanical Engineering, Minor in Connected Devices and Making GPA: 3.85/4.00

Relevant Coursework: Programming in Python, Calculus III, Differential Equations, Statics, Materials Science, Mechanics of Materials, Making Smart Devices, Electricity and Magnetism, Technology Entrepreneurship, Dynamics, Thermodynamics

SKILLS

Python, SQL, C++, MATLAB, Agile SDLC Methodologies, Microsoft Excel, Multisim, GitHub, IoT Hardware Instrumentation, Data Acquisition, iOS Development, Smart Device Circuits, Team Collaboration, Leadership, Innovation, OSHA 10 Certified

PROFESSIONAL EXPERIENCE

Wireless Devices and Systems Lab (WiDeS) Los Angeles, CA
Undergraduate Research Fellow September 2025 - Present

- Dedicate 7+ hours of weekly research to ground station hardware systems integration, networking, and cross-layer design
- Demonstrate successful configuration of antenna and transmitter system, develop RF network solutions, use Fourier analysis
- Maintain communication with graduate researchers and lab faculty in preparation for comprehensive research presentation

Rain for Rent Bakersfield, CA
Research and Development Engineering Intern May 2025 - August 2025

- Conducted 10+ hours of weekly research surrounding Bluetooth Low Energy, LoRaWAN, and Wirepas wireless technologies
- Tested 5+ new products weekly, documenting over-the-air configuration, gateway connectivity, and data to application server
- Collaborated with IoT team to deploy 15+ API integrations, displaying all remote data on AWS internal application server
- Deployed wireless water pump & tank monitoring system using an AWS network to improve remote data collection by 70%
- Developed self-updating IoT intelligence feed using Python & Microsoft Power Automate to reduce manual research by 80%

PROJECTS

Aquarobi - Advancing Water Accessibility October 2025

- Led interdisciplinary team of 6 to develop BLE-enabled water testing device, addressing the Nairobi, Kenya water crisis
- Programmed Arduino-backed sensor using C++ to measure TDS, turbidity, pH, & phosphorus levels and display on an LCD
- Fabricated and 3D printed prototype casing using SolidWorks, ensuring proper modifications for screen and electronic buttons
- Collaborated cross-functionally with app developers for sensor-to-app data transmission and mapping of water accessibility
- Earned first place out of 9 in Grand Challenge Scholars Program makeathon, demonstrating innovation and global impact

Boeing 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

LEADERSHIP AND INVOLVEMENT

USC Society of Women Engineers Los Angeles, CA
Corporate Affairs Committee September 2024 - Present

- Coordinate acquisition of 10-15 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
- Lead engineering projects for 30+ K-5th local students, encouraging creative idea processes, problem solving, & collaboration

USC Rocket Propulsion Lab Los Angeles, CA
Composites Team Contributor September 2024 - April 2025

- Devoted 5+ hours to surface preparation of student-built rocket, sanding the mandrel to optimize flight performance
- Executed precise cutting of 50+ carbon fiber components, ensuring fibers are placed accurately to enhance structural integrity
- Collaborate with 30+ students to stay informed on project developments and contribute to weekly team discussions