

# Hannah Cutler

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## Education

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### UC Santa Barbara

*Bachelor of Science (B.S.), Electrical Engineering*

Santa Barbara, CA

*Expected June 2027*

## Work Experience

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### Controls Hardware Member, Formula SAE – Santa Barbara, CA

Oct 2023 – Present

- Utilizing wiring harness software RapidHarness to collaboratively design and manufacture a functional and cost-efficient wiring harness for final car in a team of 3.
- Translating wiring harness diagrams from software to ordering list, utilizing CAD models to ensure correct wire length measurements.
- Leveraging Fusion360 to design printed circuit boards (PCBs), combining 2-3 sensors into a board. Maintain PCB design best practices to uphold uniformity with Gaucho Racing designs.

### REU Researcher, University of California, San Diego – San Diego, CA

June 2024 – Present

- Selected as one of 10 participants from across the country to conduct engineering research in collaboration with Scripps Institute of Oceanography.
- Working in a 4-person team to develop the 3rd generation Smartfin, to collect and transmit oceanographic data in the costal surf-zone.
- Implementing Python simulations to understand the effects of spectral artifacts in the time-frequency domain on 3 different sensors.
- Integrating the google test framework as a bridge between scheduler algorithms and wave and signal simulation tools.

### Hardware Development Intern, Hikari Medical Technologies – Santa Barbara, CA

Jan 2024 – Present

- Utilizing iterative design process to design and improve a functional and wearable housing for the device, in order to align lens, laser diode, and sensor (AS7263) while keeping device dimensions under 40mm x 40 mm.
- Recommending, designing, and integrating PCB with 3D printed case. Testing each design using relevant environmental factors, and manufacturing
- Communicating regularly with company co-founders to align design goals and update the design process.

## Leadership Experience

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### External Vice President, SWE-UCSB – Santa Barbara, CA

May 2024 – Present

- Contacting and maintaining relationships with 90+ companies to support club finances and networking opportunities
- Proposing and instituting new initiatives such as SWE Tech Team @ UCSB that work to close the gender gap in engineering graduates.
- Organizing annual Evening With Industry event with 75+ participants, up to 20 sponsors, and thousands of dollars of investment.

## Projects

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### 3-Dimensional Virtual Keyboard

- Proposed and cooperatively designed gloves with 2 integrated GPU-6050's and 5 flex sensors to calculate data feedback and play 108 corresponding keyboard notes using an Arduino-based microcontroller
- Arranged prototype breadboards to facilitate easy debugging. Researched, wrote, and debugged C++ over the course of 5 weeks.

## Technical Skills

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Python, C++ , Java, Fusion360, AutoCAD, Altium, MATLAB/Simulink, soldering, Microsoft Suite