

Jack Dibachi

Contact: jackdibachi@gmail.com | (916) 749-5996
LinkedIn: linkedin.com/in/jackdibachi
Portfolio: github.com/dibachi/portfolio

Education

Stanford University	2021—2023
M.S. Mechanical Engineering Emphasis in Robotics and Controls	
University of California, Santa Barbara	2016—2020
B.S. Mechanical Engineering Graduated with Honors, 3.8/4.0 GPA	

Skills

Programming: Python, C/C++, MATLAB, Julia, ROS, Simulink, LabVIEW, Bash, ESP, Raspberry Pi, FreeRTOS
Software tools: SolidWorks, Ansys, OrCAD PCB Editor, Microsoft Office, Git, LaTeX, Visual Studio, Gazebo
Manufacturing: Injection molding, die casting, GD&T, CNC machining, 3D printing, PCB manufacturing

Work Experience

Product Development Engineer — *Simpl Global*

September 2020—August 2021

- Designed heat sinks, end caps, busbars, enclosures, and circuit board mounts for numerous developing products.
- Wrote drivers and code libraries for embedded systems to invert DC power and adjust for load changes in real time.
- Conducted experiments and simulations of circuit behavior to improve DC/AC inverter performance and response time.
- Engineered mechanical and electrical systems for an automatic transfer switch to enable backup power during blackouts.

NPI Component Manufacturing Engineering Intern — *Intuitive Surgical*

June 2020—August 2020

- Revised engineering drawings and implemented GD&T to ensure proper inspection and function of components.
- Reduced material, cost, and environmental impact by redesigning components for injection molding and die casting.

Mechanical Engineering Intern — *Bruker Nano Surfaces*

June 2019—September 2019

- Prototyped methods of atomic force microscope probe exchange to broaden ease of use and increase replacement times.
- Modified assembly instructions and performed validation tests for a temperature-controlled biological sample module.

Student Assistant — *UC Santa Barbara Department of Physics*

June 2018—June 2019

- Worked as part of a multidisciplinary team building a neutron veto system for the underground LZ dark matter detector.
 - Developed a feed system to transfer liquid scintillator from 55-gallon drums to the veto tanks without exposure to air.
 - Designed, built, tested, and wrote operating procedures for a scale prototype system to ensure large-scale functionality.
 - Fabricated custom gas bubblers, gaskets, reservoirs, and a nitrogen diffuser used to prevent scintillator oxidation.
-

Projects

UCSB Rocket Propulsion Laboratory — *Co-founder and Chief Engineer*

October 2018—June 2020

- Established a rocketry team to foster academic and career opportunities for students interested in aerospace engineering.
- Directed research and development of a rocket propulsion system to be used in an intercollegiate rocket competition.
- Contributed to engine research, feed system design, electrical systems integration, test operations, and outreach.
- Conducted design reviews, hosted recruiting events, and organized the final design packet for the static fire test rig.

ME 153: Product Design — *Team Member*

April 2019—June 2019

- Contributed towards development of a Thermos lid capable of passive temperature control and active spill prevention.
- Implemented hardware changes to increase device battery life from under three hours to eight hours of continued use.
- Won the award for Most Marketable Product at the Mechanical Engineering Design Competition for third-year students.

UCSB Hyperloop — *Maglev Team Member*

October 2017—July 2018

- Assisted assembly and testing of the maglev system used on the UCSB pod for the SpaceX Hyperloop Competition.
 - Developed operating procedures, engineering controls, and data acquisition techniques for maglev characterization tests.
 - Oversaw transportation and material handling procedures at SpaceX, where the team won the Levitation Competition.
-

Affiliations and Awards

Tau Beta Pi CA Σ Chapter (Vice President, 2019-20) | UCSB Engineering Writing Excellence Award | Graduation with Honors
Third-year Design Competition: Most Marketable Product | 2018 Hyperloop Levitation Competition Winner | Dean's Honors
Ken Morton Sr. Scholarship | Serrano Country Club Scholarship | First Tee of Greater Sacramento Community Service Award

Interests and Hobbies

Robotics, mechatronics, embedded systems, programming, bicycle maintenance, golfing, backpacking, ocean kayaking