Gabriel Rayos

gabriel_rayos@berkeley.edu
(858) 330-8889 |

Education

University of California, Berkeley – College of Engineering *Expected Graduation | May 2028*

B.S. Mechanical Engineering

Relevant Coursework: Three-Dimensional Modeling | Manufacturing and Design Communication | Linear Algebra & Differential Equations | Thermodynamics | Introduction to Solid Mechanics | Physics for Scientists & Engineers

Experience

Berkeley Formula Racing *– Drivetrain Technical Engineer* *October 2025 - Present*

- Works with a 13-member team to design, analyze, and manufacture the drivetrain subsystem for #3-ranked SAE racecar.
- Modeled and fabricated using Solidworks and GD&T, and performed ANSYS FEA on 7075-T6 aluminum wheel centers to maximize stiffness, minimize weight, and maintain a Factor of Safety of 1.3 under maximum load conditions.

Think Neuro Inc. *– Bibliometrics Analysis Associate* *January 2025 - Present*

- Led two different teams of 13 undergraduate interns to facilitate a research project that presents, analyzes, and creates conclusions based on bibliometrics data to confirm accuracy of electroencephalography devices in early detection of neurological disorders (spring) and benefits of utilizing artificial intelligence to detect psychiatric conditions (summer).
- Extracted data from the Web of Science database and utilizing R-programming and Excel to develop charts and figures depicting the team's findings. Presented e-poster at virtual symposium to audience of over 200 students.

Naval Facilities Engineering Systems Command Pacific *– Utilities Intern* *July-August 2021; June - September 2022*

- Rotated among four Public Works Department (PWD) divisions: Electrical Substation, Facility Support and Emergency Service Division, Water Treatment Plant, and Metal Shop.
- Monitored the electrical and water treatment plant systems to support over 500 housing installations.
- Provided base support and facility services, such as cleaning the office and residential air conditioning units, repairing refrigeration and dehumidifier units, and repairing faulty window and door frames, ensuring maintenance of housing.
- Removed and installed light bulbs at residential housing and military facilities.

Projects

Vendi OnShape, DFA, DFM *February 2025 - May 2025*

- Led design and manufacturing of the vending machine's frame, adhering to DFM for ideal functionality and fabrication.
- Integrated a spiral coil dispensing mechanism, ensuring efficient systems for dispensing snacks determined by user input.
- Implemented a secure retrieval door, offering protection and safety by preventing unauthorized access to machine interior.
- Utilized front and back panel doors to provide easy access for maintenance servicing and restocking.

Line-Following Robot | SolidWorks, 3D Printing, Arduino July 2025 - August 2025

- Modeled a miniature robotic car equipped with infrared sensors for autonomous line-following.
- Engineered and fabricated a 3D-printed lightweight chassis optimized for component integration and safety compliance.
- Programmed an arduino microcontroller to perform forward, turn right, turn left, and stopping mechanisms.

Miniature Wind Turbine | SolidWorks, FEA, 3D Printing *February 2025 - May 2025*

- Modeled a miniature wind turbine with three blades, a 16 inch support tower, and a motor housing.
- Administered FEA to optimize the stiffness to weight ratio in order to achieve a cost-effective and strong turbine design.
- Researched several angles of attack, pitches and blade shapes to ensure optimal performance.
- Achieved a wind turbine with 5.88 N/mm stiffness producing a max 2.3 Watts of power.

Multipurpose Attachable Bed Stand | Solidworks, FEA, DFM, DFA, GD&T *February 2025 - May 2025*

- Created a stand, designed to attach securely to a bed frame and serve as a versatile surface to perform multiple functions including securing a charging cable, supporting electronic devices, and holding miscellaneous objects.
- Designed the components and drafted part drawings with GD&T specifications for optimal assembly and manufacturability.
- Implemented a user-friendly clamping mechanism to firmly attach stand to the bed frame, ensuring stability.
- Administered FEA to assess structural integrity and reliability.

Skills

Engineering Skills: Machining | CAD | GD&T | DFM | DFA | Engineering Drawings | 3D Printing | FEA

Software Skills: Solidworks | Arduino | Python | Java | R-Programming | AutoCAD | Microsoft Office | OnShape |MatLab

Soft Skills: Leadership | Organization | Adaptability | Communication | Problem Solving | Creativity | Commitment | Teamwork

Awards: Fisher House Foundation Scholar | AP Scholar with Distinction