Aeden Gasser-Brennan

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EDUCATION

- **University of California, Berkeley** — Berkeley, CA
  BS, Mechanical Engineering, GPA 3.96, Regents Scholar (top 2% of applicants) — Graduation Date: Spring 2023
  - ENG25 (Drafting), ENG7 (MATLAB), PHYS7B (Thermodynamics + E&M), CHEM1A (General Chem), MATH 53 (Multivariable Calculus), MATH 54 (Lin. Alg, Differential Equations),
- **Harvard-Westlake High School** — Los Angeles, CA
  High School Diploma; GPA: 4.45 — Class of 2019

EXPERIENCE

- **Wave Power Generation; UC Berkeley Mechanical Engineering** — Aug 2019 - Current
  - Undergraduate research assistant in laboratory of Reza Alam. Working on US Department of Energy Waves to Water Prize. Created simulator in Matlab that demonstrated issues with ability of rotary pump to capture energy from wave energy source while remaining lubricated. Also wrote software to determine optimal reisistive torque from power take off system. 9 hrs/week
- **UC Berkeley Formula SAE Team Member** — Aug 2019 - Current
  - Member of vehicle dynamics subteam. Analyzed temperature data for several different tire sizes and compounds that informed tire selection. Added temperature models to team lap simulation software. Responsible for design of suspension geometry and improvement of team lap-simulation software. 20 hrs/week
- **Freelance CAD Designer** — Jun 2019 - Current
  - Contracted out to do design and product development work for small businesses. Work with manufacturers and company leaders to arrive at a design. 10 hrs/week
- **Battlebots®Robotics Team Shellshock** — May 2019 - Jul 2019
  - CAD designer on Battlebots team Shellshock. Helped design solid parts for chassis, weapon, shell, and drivetrain. Worked with machine shops to produce parts as well. Robot competing on Battlebots 2019. 15 hrs/week
- **Quadruped Prosthetics; CSU Fullerton Mechanical Engineering** — Jun 2018 - Aug 2018
  - Summer intern in the laboratory of Dr. Nina Robson, Dept. of Mechanical Engineering, California State University, Fullerton. Worked on CAD modeling, 3D printing, and testing of a customized prosthetic used to allow an injured dog to walk. 30 hrs/week
  - Co-author on 2 posters at CSU Fullerton Science and Engineering Summer Research Symposium:
    * Lopez, Gasser-Brennan, Chen, Robson, "Supporting Orthotic Wheelchair for Disabled Quadrupeds"
    * Nguyen, Gasser-Brennan, Robson, "Performance Evaluation of a Human Upper-Extremity Prosthetic Device"
- **Anechoic Wind Tunnel; CSU Fullerton Mechanical Engineering** — Jun 2017 - Aug 2017
  - Designed sensor arrays to test the acoustic damping properties of supersonic wing vortices in lab of Salvador Mayoral. 15-20 hrs/week
- **FRC Robotics Team 3328** — Sep 2017 - Jun 2019
  - Lead CAD designer and programmer, First Robotics Team 3328, North Hollywood High School. Designed significant parts of 2019 robot, including team's first ever custom gearboxes, and over one thousand machined parts overall. Used parts made on a Laser Cutter, CNC Router, Waterjet, CNC Mill, and CNC Brake Press. 30 hrs/week
- **Wind Tunnel Control Systems; CSU Fullerton Mechanical Engineering** — Jun 2016 - Aug 2016
  - Made circuit diagrams for and built custom control system for laboratory wind tunnel in lab of Salvador Mayoral. Control system incorporated pressure transducers to monitor wind tunnel, motor controllers to control sensor array from year before, and relays to control main compressor. 15-20 hrs/week
- **VEX Robotics Team 6007X** — Jan 2013 - Apr 2018
  - 6 years as captain of Vex Robotics Team 6007; Founded team and was main designer, builder, and programmer of team robots for 6 years. Pioneered use of CNC manufactured parts in competition that is traditionally mostly off-the-shelf. Competed successfully at international level (see below). 6007x.us 30 hrs/week

SKILLS

- **CAD Software:** Autodesk Inventor, Solidworks (CSWA Certified), Grabcad, Autodesk Vault
- **Machining Experience:** 3, 5-axis CNC Mill, Laser Cutter, Waterjet, 3D Printer, CNC Lathe, CNC Brake Press
- **Programming/Markup Languages:** MATLAB, Python, Java, JS, HTML/CSS, LaTeX, github.com/AedenGB

AWARDS

- **National Merit Scholarship Finalist:** 2019
- **Caroline D. Bradley Scholar:** 2015-2019; four years private high school tuition paid
- **Vex Robotics**

  - 2017 High School Division Champion, World Championships.
  - 2014-2018 World Championship Competitor
  - 2017, 2016, 2014 State Champion, CA State Championships.
  - 2015 Quarter-finalist, World Championships.