

# Jeffrey “Jeff” Anderson

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## EDUCATION

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- **University of California - Los Angeles** Los Angeles, CA  
*Bachelor of Science - Mechanical Engineering - GPA: 3.54* Expected Jun. 2022  
**Courses:** Intermediate Fluid Mechanics, Advanced Strength of Materials, Principles of Nanoelectronics, Environmental Nanotechnology

## TECHNICAL WORK EXPERIENCE

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- **NanoClear Technologies** Pasadena, CA  
*Process Engineer Associate* May - Sep. 2019, Jun. - Dec. 2020
  - Install and validate semiconductor process equipment including e-beam evaporator and plasma etcher. Direct electrical and process piping contractors in supporting equipment and create standard operating procedures, recipes, and custom fixturing for unique substrates.
  - Create custom tooling and support software for environmental materials testing of nano-enabled super-hydrophobic and super-hydrophilic surfaces. Port existing processes to new tooling and applications. Engage rapid-prototyping manufacturers.
  - Substrate Dipping and Drying Robot: Engineer low-cost, user programmable substrate dipping and drying robot on 3D printer platform for production with documentation. Design subject to multi-discipline review.
  - Environmental Chamber: Design environmental chamber for materials testing. Hold  $\pm 0.5^{\circ}\text{C}$  and lower bound %RH with cycling behavior. Conduct design validation with supporting experimental data. Design requires Raspberry Pi, Arduino, PID control, and python GUI.
- **Bruin Racing - Super Mileage** Los Angeles, CA  
*Powertrain Lead and Lab Manager* Sep. 2018 - Pres.
  - Project manage six-person multi-disciplinary team for high-efficiency vehicle powertrain. Established iterative weight, manufacturing time, and cost reduction metrics subject to design specifications.
  - Create standard operating procedures and shop layout.
  - Torque Sensing Engine Mount: Coordinate mechanical and electrical team members to sense engine torque output using load cells for real-time engine control unit feedback.
  - Fuel Pressurization: Design pressure vessel and safe regulation for static fuel pressurization. Conduct design safety validation including burst testing.

## GENERAL WORK EXPERIENCE

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- **University Cooperative Housing Association** Los Angeles, CA  
*Secretary of the Board of Directors* Nov. 2020 - Pres.
  - Direct policy governance in non-profit's mission to provide affordable housing to over 400 UCLA students and mitigate Covid-19 financial losses. Establish advertising campaign efficacy metrics to increase membership. Seven elected directors and multiple committees.
- **California NanoSystems Institute - Integrated Systems Nanofabrication Cleanroom** Los Angeles, CA  
*Lab Assistant* Feb. - Jun. 2019
  - Ensure tools operate within specifications, procure chemicals dispose of waste, maintain cleanroom (particle count, laundry, eg.).
- **Wellstar Kennestone Hospital** Marietta, GA  
*Technician - Advanced Endoscopy Center and Linen Technician* Jun. - Sep. 2018
  - Take Vital signs, transport patients between rooms, turnover rooms, conduct inventory, observe infection protocols, distribute linen.

## PROJECTS

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- **2D Acoustic Mapper:** Planar acoustic mapping using omnidirectional microphones and speaker.
- **Engineering 96: Rockets:** Carbon fiber and 3D printed model rockets (1-3 ft. in length). Suspended egg payload carrier.
- **IdeaHacks2020 Hardware Hackathon, Education Category Winner:** Automatic book reader using vision processing API on Raspberry Pi in under 48 hours. Five-person team.
- **IdeaHacks2019 Hardware Hackathon, 1st Place Winner:** RFID bike lock using CAD, 3-D printers, in under 48 hours. Five-person team.
- **For Fun:** ESP32-based Bluetooth keyboard (in progress). Raspberry Pi home VPN, network DNS ad blocking, and 3D printing server.

## SKILLS

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- **Languages** Python, MATLAB, Julia, L<sup>A</sup>T<sub>E</sub>X, Arduino
- **Tools** SolidWorks, Git, Minimal Simulink and KiCAD