

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. Establish 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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- **Physicss 4BL: 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, amateur radio.

SKILLS

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- **Languages** Python, MATLAB, Julia, L^AT_EX, Arduino
 - **Tools** SolidWorks, Git, Minimal Simulink and KiCAD