Jason Lopez

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Education

University of California, Berkeley Aug. 2022 - Dec. 2024
Mechanical Engineering: BS **GPA: 3.54**

College of the Canyons Aug. 2020 - Jun. 2022
Math, Engineering, and Physics: AS **GPA: 3.82**

Skills

CAD & Design: SolidWorks, Creo, OnShape, 3DS Max
Programming: Python, MATLAB, Git, LaTeX, Arduino, Simulink
Manufacturing: 3D printing, Manual Mill and Lathe, Laser Cutting, Waterjet, Soldering, Wiring & Assembly

Work Experience

Mechanical Design Research Intern Jun. 2024 - Dec. 2024
Additive Manufacturing and Metamaterials Laboratory Berkeley, CA

- Pioneered a new mechanical system for an innovative 3D printer with dual projectors for simultaneous multi-material curing.
- Designed key components such as vats, connectors, mounts, and printheads to ensure modular design with interchangeable parts.
- Modeled 3D micro-lattices to test different methods of electroless copper-plating to achieve conductivity inside complex designs.
- Enhanced print speed by over 10x, drastically reducing production time compared to previous multi-material models.

Instrumentation Research Intern Jun. 2023 - Aug. 2023
Lawrence Berkeley National Laboratory Berkeley, CA

- Conducted ground motion measurements by deploying and calibrating accelerometers across LBNL's Cyclotron.
- Extracted meaningful trends from sensor data using MATLAB, enabling the evaluation of end station viability.
- Identified optimal installation sites for a new microchip printer, maximizing its efficiency and productivity.
- Developed interactive graphical dashboards to effectively communicate findings to current and future engineers at LBNL.

Projects

CNC Plotter Mar. 2025 - Present
Home Office Castaic, CA

- Designed a fully functional CNC plotter using SolidWorks, including all mechanical components and moving assemblies.
- Handled the electronics integration, ensuring precise motor control and accurate pen positioning for detailed plotting.
- Created a comprehensive BOM and sourced all necessary components, balancing cost-effectiveness with performance.
- Assembled machine using hand tools and verified the complete system’s functionality through hands-on construction and testing.

Automatic Chess Board Aug. 2024 - Dec. 2024
UC Berkeley Etcheverry Hall Berkeley, CA

- Developed an automated chess board that enables two players to play remotely without physically moving the pieces.
- Used SolidWorks to design a complete CAD model of the entire system which featured a CoreXY gantry mechanism.
- Created an organized BOM listing all specific components, ensuring streamlined assembly and easy maintenance.
- Optimized hardware and software integration for reliable real-time gameplay, allowing continuous piece movement.

Adjustable Laptop Stand Feb. 2023 - May 2023
UC Berkeley Etcheverry Hall Berkeley, CA

- Conceptualized and designed a versatile laptop stand that adjusts and folds compactly using a scissor-mechanism.
- Employed SolidWorks to create a 3D model and detailed CAD drawings for each component, incorporating GD&T standards.
- Assembled a functional prototype using laser-cut sheet metal and 3D-printed parts, demonstrating the product's feasibility.
- Presented the final product to industry experts and faculty leaders at UC Berkeley's Jacobs Design Institute.

Delay Guitar Pedal Feb. 2024 - May 2024
UC Berkeley Cory Hall Berkeley, CA

- Engineered schematics and layouts for a delay guitar pedal PCB using KiCad which included an ESP32 and LCD Screen.
- Completed soldering tasks to assemble and integrate passive components onto the PCB board as well as organize wiring.
- 3D Printed a custom case for housing electronic components and peripherals ensuring correct dimensions and tolerances.
- Configured auxiliary inputs, power supplies, foot pedals, and switches for seamless integration into the electronic device.