Shreya Jampana

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Engineering student seeking Electrical Engineering internships to apply systems, RF, and analog circuit design and project experience to real-world applications in your organization

EDUCATION

Harvey Mudd College, Claremont, CA   Expected May 2026
B.S., Engineering; GPA 3.854

RELEVANT COURSEWORK

Radio Frequency Circuit Design, Advanced Systems Engineering, Electronic and Magnetic Circuits and Devices, Engineering Design and Manufacturing, Continuum Mechanics, Materials Engineering, Experimental Engineering, Principles of Computer Science

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WORK EXPERIENCE

R&D Engineering Intern, Intellisense Systems Inc.   May 2024-Aug 2024
- Designed nondestructive, automated inspection system with terahertz/surface imaging to detect bearing surface/interior flaws
- Developed large-scale optomechanical system, components, and detailed assembly (including a robotic arm) on SolidWorks
- End design reduced cost, inspection time, and labor-intensive testing of bearing elements

Tutor for Electronic and Magnetic Circuits and Devices, Harvey Mudd College   Aug 2024-Present
- Provide bi-weekly tutoring to 50+ students for conceptual understanding of material and guidance in problem sets
- Troubleshoot/offer design advice to students' analog circuits for labs/projects, which include sensors, AC-DC converters, etc.

Machine Shop Proctor, Harvey Mudd College   Dec 2023-Present
- Train and supervise students/faculty to safely operate machinery in metal/wood shops; provide design/fabrication guidance

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PROJECTS

Thermoregulating Wearable, Entrepreneurship Workshop   Sep 2024-Present
- Designing and developing a cooling solution (using a thermoelectric cooler) to enhance athletes' performance
- Received a $1K grant from the **1517 Fund** for prototyping

RF Filter, Radio Frequency Circuit Design   Oct 2024
- Designed, simulated, and assembled a low pass, butterworth fifth order ladder filter implemented on stock filter PCBs
- Met specs for stop band rejection, insertion loss, in-band ripple, while accounting for component variation and board parasitics

Autonomous Underwater Vehicle (AUV), Experimental Engineering   Jan 2024-May 2024
- Designed, built, and tested an AUV and its pressure sensor, temperature sensor, flex sensor using a wind tunnel and gantry crane
- Developed a proportional control system to track AUV's depth and control its navigation underwater
- Analyzed mechanical, thermal, and electrical systems to explore relationship between current velocity and depth in ocean

Electromyogram Sensing Circuit, Electronic and Magnetic Circuits and Devices   Jan 2024-May 2024
- Designed, simulated (on LTspice), and tested an EMG circuit, equipped with amplifiers and filters, to measure electricity produced by movement in muscle tissue

Oscilloscope Cable Fixture, Introduction to Engineering Design and Manufacturing   Sep 2023-Dec 2023
- Developed a strain-minimizing oscilloscope cable fixture with a team to help students perform radio frequency circuit analysis
- Led team to create assembly drawings, a process router, various resolution prototypes, and performed design reviews

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RESEARCH EXPERIENCE

Molecular Engineering Lab Researcher, Harvey Mudd College   Jan 2023-Present
- Design and tune rigidity of peptide amphiphile micelles (PAMs), and interface these molecules with electrical systems to create fluorescent bio-inspired sensors that detect water contamination
- Review literature, write SOPs, perform fluorescence spectroscopy, and analyze quantum yield for various molecular systems

PUBLICATION

Publication: Sindhurattavej, B., **Jampana, S.**, Pham, P. M., Romero, L. C., Rogers, A. G., Stevens, G. A., Fowler, W. C. (2024). Tuning Molecular Motion Enhances Intrinsic Fluorescence in Peptide Amphiphile Nanofibers. *Biomacromolecules, 25*(4), 2531-2541

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SKILLS

Programming and Software: SolidWorks, LTSpice, MATLAB, Java, Python, Racket, LabVIEW
Other: RF Test Equipment/Procedures, Machining, Rapid Prototyping, Microsoft Office

HONORS AND AWARDS

Tau Beta Pi Engineering Honor Society, Rose Hills Science and Engineering Scholar, Recipient of Los Angeles Philanthropic Foundation Scholarship, Recipient of Harvey Mudd Merit Scholarship, Harvey Mudd College Dean's List