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Robotics Engineer

About Me

I am a Robotics Engineering graduate from UCSC, born and raised in San Francisco, with hands-on experience in microelectronics, programming microcontrollers, and automating complex systems. I am proficient in Kicad, C, and SolidWorks, capable of simulating and developing real-world applications. I am a fast learner with practical expertise in coding, electrical systems, and 3D modeling.

Major Projects

Wet-Dry Cycler for RNA Production
Recruited and led a team to design and build an automated system to simulate early Earth conditions for non-enzymatic RNA synthesis, supporting origins-of-life research in collaboration with Dr. David Deamer.
3D Tracking Using an IMU for Rock Climbing
Developed an inertial measurement unit (IMU)-based tracking system for analyzing climber movement, improving performance insights, and real-time motion visualization.
Mechatronics Competition (2nd Place)
Led the development of a high-performance autonomous robotic system, integrating microcontrollers, sensors, and real-time feedback for competitive mechatronics tasks.
Detailed descriptions and documentation available at:
ramfi-d.github.io/Website/

Most Relevant Courses

Computer Science:
CSE 100/L: Logic Design (A-)
CSE 101: Data Structures (B)
CSE 107: Prob. & Stats (B-)
CSE 12: Assembly (A)
CSE 16: Discrete Math (B)
CSE 20: Python (B)
CSE 30: Prog. Abstractions (B)
ECE 13: C Programming (A-)

Electrical & Mech. Engineering:
ECE 129A/B/C: Project for Professor Deamer (A)
ECE 242: Applied Feedback Control (A)
ECE 141: Feedback Control Systems (A)
ECE 171/L: Analog Elec. (A-)
ECE 167/L: Sensors (B+) Lab (A+)
ECE 121/L: Embedded Systems (A)
ECE 118: Mechatronics (A)
ECE 103/L: Signals & Systems (A+)
ECE 101/L: Circuits (B+)

Math & Physics:
ECE 9: Statics & Mechanics (B)
MATH 19A: Calc I (B+)
MATH 19B: Calc II (B)
MATH 21: Linear Algebra (A)
MATH 23A: Vector Calc (B)
PHYS 5A/L: Physics I (B+) Lab (A)
PHYS 5C/N: Physics III (B+) Lab (A)
AM 20: Math Methods II (A-)
ECE 10: Kinematics (A+)

Work Experience

UCSC, Santa Cruz, CA
Undergraduate Tutor — ECE167: Sensors and Sensing *Winter Quarter 2025*
Supervisor: Professor Collen Josephson (cjosephson@ucsc.edu)

Led tri-weekly lab sessions on sensor technologies and data processing. Covered sensing principles, calibration, signal filtering, ADC, and data acquisition. Guided students in practical lab applications using C programming.

Skills

Programming: Python, Kicad, C, C++, Verilog, MATLAB, Assembly, HTML, CSS, Latex.
Math & Physics: Strong background in advanced concepts.
Systems Modeling: Kinematics, dynamics, SolidWorks, OnShape.
Electronics: Circuit design, analysis, analog/digital systems.
Projects: Microcontrollers, sensors, 3D prototyping, technical documentation.
Languages: Fluent in French.

Education

University of California, Santa Cruz (UCSC)
Robotics Engineering, Minor in Electrical Engineering
Sept 2020 - June 2025

References

Prof. David Deamer (deamer@soe.ucsc.edu) • **Prof. Collen Josephson** (cjosephson@ucsc.edu) • **Prof. Zouheir Rezki** (zrezki@ucsc.edu)

Contact

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