Rafael J. Delwart

Robotics Engineer

About Me

I am a dedicated fifth-year Robotics Engineering student at the University of California, Santa Cruz. My passion for engineering is demonstrated through both my academic achievements and the personal projects I have undertaken in my spare time. I have hands-on experience with microelectronics, ranging from simple variable power supplies to beacon detectors for flashing leds with extensive filtering. My expertise extends to programming microcontrollers and integrating sensors to automate complex systems. I am proficient in a range of programming languages and industry-standard tools, including Verilog, C, and SolidWorks, allowing me to simulate and bring designs to life. As a fast learner, I have rapidly gained practical experience across various facets of engineering, from coding and electrical system design to 3D modeling.

Most Relevant Courses

CSE 100/100L: Logic Design (A-)

CSE 101: Introduction to Data Structures and Algorithms (B)

CSE 107: Probability and Statistics for Engineers (B-)

CSE 12: Computer Systems and Assembly Language and Lab (A)

CSE 16: Applied Discrete Mathematics (B)

CSE 20: Beginning Programming in Python (B)

CSE 30: Programming Abstractions: Python (B)

ECE 9: Statics and Mechanics of Materials (B)

ECE 10: Fundamentals of Robot Kinematics and Dynamics (A+)

ECE 13: Computer Systems and C Programming (A-)

ECE 101/101L: Introduction to Electronic Circuits and Associated Lab (B+) Lab:(A)

ECE 103/103L: Signals and Systems and Associated Lab (A+) Lab:(A)

ECE 171/171L: Analog Electronics and Associated Lab (A-) Lab:(A-)

ECE 121/121L: Microcontroller System Design (A) Lab:(A)

ECE 167/167L: Sensing and Sensor Technologies (B+) Lab:(TBD)

ECE 118: Introduction to Mechatronics (A)

MATH 19A: Calculus for Science, Engineering, and Mathematics (B+)

MATH 19B: Calculus for Science, Engineering, and Mathematics (B)

MATH 21: Linear Algebra (A)

MATH 23A: Vector Calculus (B)

PHYS 5A/5L: Introduction to Physics I and Associated Lab (B+) Lab:(A)

PHYS 5C/5N: Introduction to Physics III and Associated Lab (B+) Lab:(A)

AM 20: Mathematical Methods for Engineers II (A-)

Projected Courses for 2023-2024 Academic Year:

ECE 141: Feedback Control Systems (TBD)

ECE 121 Capstone Project: Year long project used a culmination of all class

ECE 242: Applied Feedback Control (TBD)

ECE 245: Estimation and Introduction to Control of Stochiastic Processes

Skills

Programming Languages: Fluent in Python, C, C++, Verilog and MatLab. Proficient in Assembly Language, HTML, CSS.

Mathematics & Physics: Strong background in both, providing a deep understanding of complex engineering concepts.

Systems Modeling: Proficient with kinematic modeling and dynamics of systems. Proficient with Solidworks and OnShape.

Electrical & Control Systems: Comprehensive knowledge of electronic circuits, circuit analysis, analog and digital circuit design.

Personal Projects: Skilled in programming microcontrollers with sensors, 3D prototyping, and technical engineering documentation.

Fluency in French

Education

University of California, Santa Cruz (UCSC) - *Robotics Engineering with a Minor in Electrical Engineering*

September 2020 - June 2025

Reference

Zouheir Rezki, Professor at the University of California Santa Cruz, *zrezki@ucsc.edu*

132 DONNA CT, SANTA CRUZ, CALIFORNIA, 95060 +1(415)802-5537, RADELWART@GMAIL.COM