Cole Schreiner

📞 (424) 257-7168 ✉ ColeRobotEngineer@gmail.com 🏠 Palos Verdes, CA
in Linkedin.com/in/cole-schreiner ○ Github.com/UserIsMissing

Education

University of California, Santa Cruz   **2026**
Robotics Concentration

- Master of Science in Electrical and Computer Engineering

University of California, Santa Cruz   **2025**
Graduated with Highest Honors

- Bachelor of Science in Robotics Engineering
- Minor in Electrical Engineering

El Camino Community College   **2022**
M.E.S.A. Member

- Associate of Science Physics
- Associate of Science Mathematics

Technical Skills

Languages: Verilog, VHDL, Matlab, C, C++, Java, Python
Tools and Programs: AutoDesk, OnShape, SolidWorks, Git, Vivado, LTSpice, Oscilliscopes, 3D Printing, Laser Cutting
Circuit Theory: Kirchhoff's Laws, voltage and current division, op-amps, RL and RLC circuits, frequency response, filters, Bode plots, Thevenin/Norton equivalence, analog electronics, and PSpice circuit modeling
Data Structures: Trees, Heaps, Binary Search Trees, Graphs, BFS, and DFS
Engineering: Statics, Dynamics and kinematic motion of Robots, Feedback Control Systems, VLSI, Microcontroller System Design

Experience

Palos Verdes Summer Tech Internship   **June, 2022 – August, 2022**
Project Lead - Canine Medical Analysis Sensor

- Designed and developed a medical device to diagnose future mobility issues in dogs by measuring gait variances
- Applied machine learning algorithms to 9-axis IMU telemetry and developed sensor code for efficient data collection and analysis
- Assembled electronics, soldered components, designed in AutoCAD for 3D printed housing, and tested circuitry and software
- Led a team to develop a fully functional prototype

Projects

Capstone - Wet-Dry Cycler (RNA Replicator)   **June, 2025**
Project Director - Origins of Life Simulation Device

- **Objective:** Designed an automated device to simulate prebiotic wet-dry cycling, aiding RNA/DNA polymerization research and enabling cost-effective RNA synthesis for pharmaceutical applications (e.g., siRNA production)
- **Technical Expertise:** Microcontroller programming, feedback control, fluid dynamics, thermal systems, and mechanical design
- **Software Proficiency:** GUI development, automation control, and real-time data analysis
- Collaborated with biomolecular researchers to advance RNA transcription and polymerization, with potential applications in RNA-based therapies such as siRNA

Professor Piano - [Project Drive]   **March, 2025**

- Designed and developed a wearable piano teaching glove featuring piezoelectric sensors, real-time peak detection, and personalized calibration
- Integrated inertial measurement units (accelerometers and gyroscopes) to capture and analyze user movement, utilizing Euler angles for precise orientation tracking
- Led the integration of I2S audio playback for high-quality sound feedback, enhancing the user experience with immersive, real-time audio feedback

Mechatronics Robot Competition - [Github + Technical Report]   **June, 2024**

- Directed a team to integrate an embedded state machine design with custom electrical circuits and analog filters to develop a functional robot prototype
- Utilized advanced SolidWorks design techniques to create precise mechanical components and ensure seamless system integration
- Designed, built, and tested the robot under a five-week deadline before competing against 20 teams