

Evan Girard-Sun

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Education

Rice University

Bachelor of Science, Electrical and Computer Engineering

Expected May 2030

- Relevant Coursework: Mechanics with Lab, Linear Algebra, Computational Thinking

Engineering Experience

National Aeronautics and Space Administration (NASA)

Houston, TX

ER4 Robotics Intern

Jun 2026 - Jul 2026

- Processed ROS odometry data for NASA's Space Exploration Vehicle in an Intel RealSense camera project aimed at generating on-screen movement recommendations.
- Contributed to chassis CAD and the parts list for a new lunar terrain vehicle, incorporating team design-review changes for battery/electronics access and ergonomics.

FIRST Robotics Competition (FRC)

Arcadia, CA

Mechanical Lead

Aug 2025 - Apr 2026

- Designed the robot's mechanical systems and led a 15-student subteam through fabrication and assembly.
- Selected components and arranged fabrication within the team's budget and shop constraints.

Individual Projects

Wildfire Detection Drone (FireWatch)

2024 - Present

- Implemented YOLO11-based fire and smoke detection on Raspberry Pi 5 and NVIDIA Jetson Orin Nano.
- Designed and 3D-printed custom drone components. Assembled flight hardware and soldered the power distribution board and electronic speed controllers. Developing autonomous route patrol with telemetry to a central monitoring platform.

Autonomous Mini-Vehicle

2023

- Built a DonkeyCar-based vehicle using Raspberry Pi and EV3 steering and throttle control. Trained a TensorFlow CNN on driving demonstrations through behavioral cloning.

Research Experience

Autonomous Drone Swarm

Rice University Phi Lab | *Undergraduate Researcher*

Sept 2026 - Present

- Developing OpenCV-based navigation software for a BetaFPV Air75 drone swarm using analog video processed on an external laptop.

Multi-Camera Synchronization PCB

Baylor College of Medicine | *Undergraduate Researcher*

Sept 2026 - Present

- Developing the schematic for a modular, daisy-chainable ATmega2560 camera-synchronization board for multi-camera epilepsy research recordings.

Central Car ECU

Rice Electric Vehicle VIP Research | *Undergraduate Researcher*

Sept 2026 - Present

- Designed the schematic and PCB layout for the vehicle's central electronic control unit (ECU).

AlgoVerse AI Research | *Student Researcher*

Apr 2025 - Jul 2025

- Co-authored "Filtering for Creativity" (GenProCC at NeurIPS 2025 and WMDQS at COLM 2025 workshops). Designed and evaluated French and Chinese prompts for multilingual riddle generation.

Honors and Awards

- 1st Runner-Up, International IEEE UAS ACT FTS Drone Competition – IEEE (2025)
- 2nd Place, International Open World Robot Olympiad – World Robot Olympiad (2024)

Technical Skills

Programming & Tools: Python, JavaScript, MATLAB, SQL, Bash, HTML, GitHub, Linux (Ubuntu), Docker, Jupyter

AI & Robotics: ROS, PyTorch, TensorFlow, OpenCV, YOLO11, NumPy, vSLAM

Embedded & Electronics: KiCad, ATmega2560, Raspberry Pi, NVIDIA Jetson, ESP32, soldering

Web & Databases: React, Next.js, Node.js, Flask, PostgreSQL, MongoDB, Vercel, Firebase, Supabase

CAD & Manufacturing: Fusion 360, SolidWorks, Onshape, Blender, mill, lathe, drill press, chop saw, MIG welding, 3D printing