

YASHWANTH PIRATLA

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Education

University of California, Berkeley

B.S. Mechanical Engineering

Berkeley, CA

Expected May 2029

Experience

Liberty Robotics — FRC Team 4131

President

Renton, WA

Apr. 2022 – May 2026

- Lead a 40-member FIRST Robotics Competition team across robot development, mechanical design, manufacturing, outreach, and technical training.
- Coordinated technical training and team operations across 40 members, helping establish workflows for CAD, manufacturing, assembly, and robot development.
- Managed annual summer camp operations and outreach programs generating approximately \$50K annually for team funding.

Penn State Research

Research Intern

Remote

Jun. 2024 – Present

- Developed an iOS application using Swift and Apple HealthKit for wearable health data collection and analysis.
- Applied CNN, gradient boosting, and SVM models to wearable health telemetry and contributed to a technical research paper.

Verveba Telecom

Engineering Intern

Dallas, TX

Aug. 2024

- Created test cases for a network organization tool used by U.S. telecommunications carriers.
- Analyzed telecom systems and assisted with patent development for a network optimization product in a Scrum/Jira workflow.

Engineering Projects

Three-Stage Cascading Elevator | CAD, Mechanical Design, Manufacturing

- Designed and assembled a three-stage cascading elevator with fully belt-driven rigging, combining vertical extension and arm pivot to reach a 7-ft-high algae scoring target.
- Optimized belt tensioning, pulley support, and stage synchronization through iterative prototyping, custom 3D-printed components, and aluminum fabrication.

Deployable Multi-Level Climbing Mechanism | CAD, Mechanical Design, FEA

- Designed a deployable climbing mechanism using a dead-axle pivot, belt/gear transmission, chain drive, and carbon-fiber hooks to climb multiple bars.
- Balanced 115-lb weight, 12-in. extension, packaging, and structural constraints through FEA, prototyping, and extensive hook testing.

MK4 Swerve Drivebase & Robot Architecture | CAD, Packaging, Manufacturing

- Designed frame rails, cross members, bumper mounts, battery mount, and bellypan architecture around an MK4 swerve drivetrain.
- Integrated an under-bumper intake and relocated electronics beneath the bellypan to improve subsystem packaging, wiring, and serviceability.

5" FPV Drone | Mechanical Assembly, Electrical Integration, Troubleshooting

- Designed and assembled a 5-inch FPV drone by integrating the frame, motors, flight controller, ESC, ELRS receiver, battery, and power system.
- Configured and troubleshot the electrical and flight-control systems to achieve successful flight.

Honors & Awards

DECA Washington State Champion (2024, 2025) **FRC World Championship Qualifier (2023, 2024)** **FRC Sustainability Award (2024)**

Technical Skills

CAD & Mechanical: Onshape, SolidWorks, Creo, Fusion 360, AutoCAD, Catia, Design, Robotics, Systems Integration

Manufacturing: CNC Machining, Manual Machining, Fabrication, Precision Machining

Programming: Python, C++, Java, Swift, JavaScript, React, HTML