

ERIC J. DEAN

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SUMMARY

Eric Dean is a mechanical engineering student at UCLA and is also currently interning at the Western Region Robotics Forum (WRRF). Eric's engineering experience spans mechanical design and CAD, electrical assembly and controls, and programming. He completed four competition seasons in *FIRST*® Robotics Competition (FRC), first as a founding member and Team Captain and now as a mentor for students across the San Francisco Bay Area. Robotics software projects also include use of AI platforms, starting with written specifications and followed by architecture decisions, code review, and hands-on testing.

EDUCATION

University of California, Los Angeles

Los Angeles, CA

Bachelor of Science, Mechanical Engineering

Jun 2029

Relevant coursework: Statics and Strength of Materials; Computer Programming with MATLAB; Calculus of Several Variables; Mechanics and Mechanics Laboratory; Oscillations, Waves and Fields; Chemical Structure and Energetics; Statistical Reasoning

Activities: ASME at UCLA (American Society of Mechanical Engineers); Westwood SolidWorks User Group

Archbishop Riordan High School

San Francisco, CA

Diploma, Magna Cum Laude. 4.321 / 3.968 GPA

May 2025

11 Advanced Placement and honors subjects (maximum allowed) including AP Calculus AB, AP Calculus BC, AP Physics C: Mechanics, AP Computer Science Principles, AP Statistics, and AP Biology; completed the four-year Engineering Program culminating in an Engineering Capstone project

EXPERIENCE

Western Region Robotics Forum

San Jose, CA

Intern

May 2026 – Present

- Authored the proposed CalGames 2026 event modification package, amending the official *FIRST*® game manual for a 40-team offseason event with more than 75 matches over three days.
- Designed a Google Workspace architecture and 90-day migration plan covering 10 shared drives and 182 folders and including a Python-generated tracker and wireframe.
- Built the organization's proposed website application in Node.js and Express, with site-wide search, a staff area, and a document library.
- Authored and executed an FRC electrical training curriculum.

iD Tech

Stanford, CA

Instructor

Jun 2026 – Aug 2026

- Taught weeklong, full-day robotics and programming courses at Stanford University to students aged 10 to 17.
- Ran BattleBots Camp with VEX Robotics (10 to 12) and Robotics Engineering with VEX (13 to 17).
- Taught Python Coding 101 (10 to 12): variables, conditionals, functions, and 2D games in PyGame Zero.
- Built iD Tech Watch, a classroom management application for monitoring and controlling lab laptops.

Academy of Volleyball

Redwood City, CA

Assistant Coach, U12 Girls Premier

Dec 2024 – May 2025

- Planned and ran practice drills and supported tournament coaching for a competitive club team.

Archbishop Riordan High School & Healthy Cities Tutoring

San Francisco, CA / Redwood City, CA

Volunteer Tutor

Dec 2022 – May 2025

- Tutored high school mathematics and science; tutored elementary and junior high subjects for students in underserved communities.

TECHNICAL SKILLS

CAD & Mechanical Design: Onshape, Fusion 360, SolidWorks (in progress), part and assembly modeling, mechanism and drivetrain design, dimensioned engineering drawings, bills of materials (BOMs), tolerance and fit checks, design iteration, rapid prototyping

Manufacturing & Fabrication: CNC milling, 3D printing (FDM), laser cutting, drill press, band saw, manual hand and power tools, shop safety practices

Electrical & Hardware: Wiring harness fabrication, crimping and connectorization, through-hole assembly standards, 12V high-current power distribution, main breakers and fusing, motor controllers, CAN bus, PWM, encoders and limit switches, multimeter troubleshooting

Programming Languages: Java, JavaScript, Python, MATLAB, HTML and CSS (hands-on); TypeScript and SQL (working knowledge)

Robotics & Controls: WPILib, CTRE Phoenix 6, REVLib, PathPlanner, Choreo, AdvantageKit, PhotonVision, Limelight (MegaTag2), AprilTag localization, swerve drive kinematics, odometry and pose estimation, PID and closed-loop control, sensor fusion, autonomous path planning, VEX V5 and VEX IQ

Software & Tools: Node.js, React, Fastify, Express, SQLite, Firebase, WebSockets, REST APIs, Playwright, unit testing, Git, GitHub, Gradle, Android Studio, VS Code, Google Workspace administration, technical documentation

AI-Assisted Development: Claude Code in production software applications (specification development, work packets with reviewable milestones, adversarial design reviews, code review, testing, and verification)

LEADERSHIP AND MENTORSHIP

FRC and FTC Mentor, *Pumpkin Bots 8793, White Hat Hackers 11230, Mercy Mechs 18233* **2025 – Present**

- Mentoring multiple *FIRST*® Robotics Competition and Tech Challenge teams across mechanical, electrical, and software functions.
- Reviewing student Java code, running build/off-season training, and providing design expertise.

Team Captain and Founding Member, *Armor Robotics 9143* **2022 – 2025**

- Co-founded the team and led it as Team Captain through three competition seasons.
- Pitched the team to funders and industry partners including the YMCA Youth Empowerment Fund and Swope Design Solutions.
- Team awards included the Highest Rookie Seed, Highest Seeded Rookie (x2), Rookie Inspiration Award, Imagery Award (x2), Team Spirit Award, Judges' Award, and Regional Finalists (x2).

Student Advisor, *Pumpkin Bots 8793* **2024 – 2025**

- Advised team leadership on technical direction and build-season planning.

Competition Volunteer, *FIRST*® FRC, FTC, and FLL-C **2023 – Present**

AWARDS, HONORS, AND CERTIFICATIONS

Dean's List Semi-Finalist, *FIRST*® Robotics Competition (2023, 2024) | AP Scholar with Distinction, College Board (2024, 2025) | National Merit Commended Student (2024) | Academic Award in AP Statistics (2025) | President's Honor Roll (2023–2025) | President's Volunteer Service Award, Gold (2023) | Gracious Professionalism, 5 recognitions, *FIRST*® California (2023, 2024) | National Honor Society (2022–2025) | California Scholarship Federation (2022–2025) | St. Francis Scholar (2021–2025)

Certifications and Languages: Certified Onshape Associate (in progress) | PADI Advanced Open Water, Enriched Air, and Junior Open Water Diver | First Aid/CPR/AED, American Red Cross | American Sign Language