Dominic Lopez

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EDUCATION

University of California, Berkeley — August 2025 – December 2028
Regents Scholar, Bachelor of Science in Mechanical Engineering; Expected Graduation 2028
Memberships: UAVs at Berkeley (Unmanned Aerial Vehicles), BEAM (Berkeley Engineers and Mentors), Regents and Chancellors Scholar Association, Hispanic Engineers & Scientists (HES)

RESEARCH

Autonomous Vehicles Lab | University of California, San Diego (US) — June 2024 – August 2024

- Designed and prototyped an autonomous surface vehicle (ASV) to collect and transmit lake water quality data using GPS-guided navigation and integrated sensors for temperature, conductivity, and redox potential.
- Led mechanical and data system development using CAD and Ardupilot to validate sensor correlations and produce data for actionable environmental insight for park rangers to relocate wildlife

SKILLS

Technical Software | SOLIDWORKS, Onshape , Autodesk Inventor, Fusion 360
Hardware Experience | FDM/SLA 3D-Printing, CNC, Laser-cutter, Soldering, Arduino, Raspberry Pi
Programming | Python, C++, React, RobotC
Languages | English, Spanish

PROFESSIONAL & PROJECT EXPERIENCE

8301D Dewey | Mechanical + Software Lead, Program CEO — June 2015 - August 2025

- Designed over 50+ robot designs with Onshape and Solidworks to ensure efficiency and effectiveness in competition
- Created and implemented advanced motion profile algorithms in C++ and RobotC to compete consistently at an international level
- Trained 100+ members and faculty on managing and running a Vex Robotics Organization, routinely presenting to School Boards and parents
- Competed with honors at regional, national, and international levels, earning awards at every level of event

EZ Robotics + Vex Learning Alliance | Virtual Engineering Mentor — August 2023- Present

- Co-Founded EZ Robotics, non-profit company focusing on mentoring youth teams (aged 12-18) in the Vex Robotics Competition space
- Coached 10+ high-performing competition teams to regional and world award recognition, emphasizing on advanced C++ motion profile programming techniques and workplace engineering practices for machining and principles of design

Qualcomm Inc. | Curriculum Engineer and Program Lead — June-August 2021-2024

- Co-developed Arduino-based STEM curriculum with Qualcomm engineers; now implemented in Thinkabit Lab summer programs nationwide to support K–12 environmental engineering education
- Trained faculty and led hands-on instruction for elementary through high school students, fostering problem-solving, teamwork, and STEM engagement through real-world design challenges

AWARDS

- Regents and Chancellor's Scholar (UC Berkeley - Merit): 1 of 130,000 students selected for waived tuition cost
- Vex Robotics World Championship Design Award - 1st out of of 3000 teams to receive award based on best project document and robot design at the World Championships
- Society of Hispanic Professional Engineers Jr. Chapter Founder - Established and led SHPE Jr. Chapter of over 30 students at San Ysidro High School that continues to run