Ashwath Palavalli

Irvine, CA | (916)213 5467|palavala@uci.edu|https://www.linkedin.com/in/ashwath-palavalli/| US Citizen

EDUCATION

University of California, Irvine (UCI) — Irvine, CA
Mechanical Engineering B.S.- Design of Mechanical Systems Specialization|3.77 GPA — June 2023 – June 2027
Computer Science Minor
- Part-Time: UCI Athletics Student Assistant (Dec '24 - Aug '25) | Anteater Express Operator (Oct '25 - Present)
- Societies: ASME, Zotbotics, CARL Lab, Southern Wind Lion Dance

PROFESSIONAL EXPERIENCE

ClearBest, Inc. — Rancho Cordova, CA
Quality Assurance Intern — June-Sept ('23/'24)
- Collaborated with User Acceptance Testing (UAT) leads to coordinate test plans and maintain communication between developers and testers across multiple product iterations
- Developed automated Excel dashboards using VBA and Power Query to visualize and track defect data from Jira, enabling live progress updates and reducing manual reporting work by 30%
- Met regularly with senior QA engineers to present automation progress, gather feedback, and refine tools based on evolving testing needs, contributing to smoother cross-team collaboration

SKILLS

Technical: SolidWorks (CAD & FEA), Ansys (Static Structural), MATLAB, Python, ROS2, Gazebo, MoveIt, Power Query, VBA, Jira
Fabrication: CNC Machining, 3D Printing (TPU/PLA), Laser Cutting, Soldering, Welding, Lathe & Manual Milling
Systems: PID Control, Arduino (C++), ESP32, Sensor Integration, DFM

PROJECT & LEADERSHIP EXPERIENCE

Curtiss Jenny Aircraft Restoration – Flying Leatherneck Aviation Museum — Irvine, CA
Engine and Propeller Restoration Engineer — Apr 2025 – Present
- Collaborating with war veterans and industry engineers to restore a 1918 Curtiss JN-4 "Jenny" aircraft for exhibition
- Disassemble, clean, and refinish vintage engine components using fine sandblasting, polishing lathes, and protective coatings
- Conduct 3D scanning of engine and propeller assemblies with Shining 3D to create digital replicas for documentation and fabrication
- Designing a display stand to mount and showcase the restored engine for informative public viewing

Cognitive Anteater Robotics Laboratory — Irvine, CA
Undergraduate Researcher — Sep 2025 – Present
- Designed and fabricated TPU-based 3D-printed tentacle modules for CuttleBot, a robotic platform simulating cephalopod grasping and predator–prey responses
- Integrated LEGO Spike Prime with ESP32 microcontroller via UART to expand sensor input and actuation capability
- Developed early Python scripts for sensor data acquisition and motion coordination, for future ROS integration
- Researched and compiled embedded tactile and proximity sensors to emulate cephalopod sensory feedback

Zotbotics — Irvine, CA
Project Manager & Former Makerspace Manager — Aug 2024 - Present
- Leading Manufacturing 101 workshops for 17 students on CAD, 3D printing, CNC machining, soldering, and Arduino, fostering practical robotics skills; directing team with weekly meetings, design reviews, and progress tracking
- Manage club operations, including event planning, project scheduling, and negotiating bulk electronics discounts with vendors
- CAD-model custom fabrication fixtures, and implement makerspace safety procedures and workflow systems to maintain a secure, efficient workspace

Self-Leveling Anteater Robot - Zotbotics *(In-progress)* — Irvine, CA
Lead Electrical Engineer — Apr 2025 - Present
- Designed preliminary 12-servo chassis for self-stabilizing quadruped robot capable of standing, walking, and recovering from falls
- Researching and prototyping cost-effective actuation methods, integrated inverse kinematics for precise motion control

Capstone Project – Grocery Store Robot *(In-progress)* — Irvine, CA
Arm Manipulation Team — Sept 2025 - Present
- Developing a robotic arm subsystem for autonomous item grasping within a simulated grocery store environment
- Contributing to ROS2 and MoveIt integration for collision-free path planning and manipulation control
- Participating in hardware selection, kinematic modeling, and simulation in Gazebo to enable safe object retrieval and coordinated navigation

6-DOF Robotic Arm Project — ZotBotics — Irvine, CA
Project Manager — Sept 2024 - Apr 2025
- Built and modified an open-source robotic arm using Arduino, NEMA motors, and custom-designed pulleys for pick-and-place actuation. Designed a custom hand attachment for rock-paper-scissors capabilities
- Performed FEA on load-bearing part to evaluate high stress on 3D-printed parts and optimize joint geometry