Saman Lotfizad

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EDUCATION

University of California, Irvine, Irvine, CA — Sep 2023 – Jun 2027
BS in Mechanical Engineering; SAGE Scholar

WORK EXPERIENCE

ZotBotics, Self-Leveling Anteater Project (SLAP) — Jan 2026 – Present

Mechanical Engineer

- Optimized gearbox reliability by transitioning from CF-ABS to PC (Polycarbonate) for high-stress applications.
- Increased impact strength by 25% and thermal resistance by 15% to prevent high-torque deformation.
- Engineered custom gearboxes for Eaglepower 8308 motors, leveraging PC toughness for peak dynamic loads.
- Validated structural integrity through torque and motion analysis, ensuring dimensional stability at high temps.

Engineers for a Sustainable World (ESW), Beach Cleanup Rover Project — Oct 2025 – Present

Mechanical Lead

- Leading mechanical design of a 4-motor tracked rover using sprocket-driven treads with an idler wheel tensioning system.
- Designed drivetrain, gear transmission, scooping mechanism, and sand-sifting vibration system in SolidWorks.
- Fabricating and assembling 3D-printed structural and drivetrain components for field testing.

Engineering Student Council (ESC), ***Corporate Affairs Member*** — Oct 2025 – Present

- Coordinated networking events and panels between engineering students and industry professionals.
- Managed technical workshops and company engagement sessions to drive student professional development.

PROJECTS

High-Power Rocketry, Level 1 Certification — Feb 2026 – Present

- Designing a high-power rocket targeting a specific apogee using solid fuel motors and flight simulation software.
- Selecting airframe materials and documenting the assembly process to ensure structural integrity during high-velocity flight.
- Preparing documentation for NAR/Tripoli Level 1 certification flight to demonstrate knowledge of propulsion and recovery systems.

Mazda Miata 3D CAD Model — Apr 2025 – Jun 2025

- Modeled full vehicle assembly in SolidWorks and performed FEA to evaluate structural stress distribution.
- Conducted motion studies to analyze suspension kinematics and component interaction within the assembly.

Walking Robot Project — Apr 2025 – Jun 2025

- Designed multi-link walking robot in SolidWorks, modeling full mechanical assembly for gait analysis.
- Fabricated structural components via 3D printing and laser cutting to achieve lightweight yet durable linkages.
- Integrated drivetrain and linkages to achieve a stable walking gait through mechanical optimization.

SKILLS

- **CAD & Simulation:** SolidWorks (FEA, Motion Study), Excel
- **Fabrication:** 3D Printing, Laser Cutting
- **Programming:** MATLAB, Python, Arduino, R