

JOSE PUGA

Mechanical/Mechatronics Design Engineer | San Jose, CA | (669) 667-9302 | [LinkedIn](#) | [Portfolio](#) | jpugacolin@gmail.com

EXPERIENCE

KLA Corporation - Associate Test Engineer II

Milpitas, CA | Jul 2024 - Present

- Supported system bring-up, troubleshooting, optimization, and validation across 29xx, 39xx, and R90X wafer metrology platforms.
- Diagnosed system-level issues across mechanical assemblies, optics, electronics, motion subsystems, calibration routines, and metrology performance to improve stability and reduce downtime.
- Translated test results, subsystem behavior, and failure modes into mechanical/electromechanical design feedback for alignment, integration, serviceability, and validation readiness.

Freelance Mechanical Design Engineer

San Jose, CA | 2025 - Present

- Designed a thermoelectric cooler assembly from concept through manufacturing handoff, including SolidWorks models, production drawings, assembly documentation, and DFM revisions.
- Developed mechanical packaging for thermoelectric modules, heat-transfer interfaces, fasteners, mounts, and enclosure integration using GD&T, tolerance stack-up, and vendor DFM feedback.

Cratus Technology - Mechanical Design Engineer, Contract

San Jose, CA | 2023

- Designed electromechanical smart-switch and industrial control-panel assemblies in SolidWorks, including enclosure layout, PCB mounting, HMI integration, cable routing, and hardware interfaces.
- Created part/assembly drawings for machined, sheet-metal, and 3D-printed components while applying DFM, GD&T, and tolerance considerations for fabrication and assembly.
- Performed structural, vibration, and thermal simulations; supported electronics validation, firmware flashing/debugging, and system integration.

EDUCATION

San Jose State University

Bachelor of Science, Mechanical Engineering

San Jose, CA | May 2024

TECHNICAL SKILLS

Mechanical Design: SolidWorks, Complex Assemblies, Part Design, Mechanical Packaging, Enclosure Design, Manufacturing Drawings, ASME Y14.5 GD&T, Tolerance Stack-Up, DFM/DFA

Manufacturing Processes: CNC Machining, Sheet Metal, Injection-Molded Plastics, FDM 3D Printing, Manual Machining

Simulation & Analysis: ANSYS Mechanical, SolidWorks Simulation, Structural Analysis, Thermal Analysis, Vibration/Modal Analysis, Design Validation

Electromechanical Systems: PCB Design, ECAD/MCAD Integration, HMI Integration, Cable Routing, Sensor/Motor Interfaces, Electronics Packaging

Programming & Controls: Python, C++, MATLAB, Simulink, Embedded Systems, PID Control, Data Logging, Test Automation

PROJECTS

Automated Seatbelt System for Solar ATN - Senior Project of the Year 2024

- Designed the linear-guide mechanism and electromechanical control-panel assembly in SolidWorks, including actuator mounting, HMI integration, PCB packaging, internal layout, and assembly interfaces.
- Created CAD assemblies, manufacturing drawings, and ANSYS structural/thermal analyses to validate component fit-up, mounting integrity, and system reliability.
- Developed and integrated a custom PCB using Altium with AC/DC power conversion, H-bridge motor control, HMI interface, and ATmega2560 microcontroller for electromechanical actuation.

3D Printer Enclosure with PID Thermal Control | In Progress

- Designing a thermally controlled Bambu Lab A1 enclosure using 20x20 T-slot extrusion, acrylic panels, magnetic access doors, ventilation, dry-filament feed integration, and PID-based airflow/temperature control.
- Creating SolidWorks assemblies, detailed drawings, GD&T specifications, and tolerance stack-up analysis for frame alignment, panel fit-up, door closure, and serviceability.