Kevin Cordova

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Skills

CAD: SolidWorks, AutoCAD
Analysis: Simulink, SolidWorks Simulation, Ansys

Experience

Contract Draftsman, Active Properties 3 LLC – Montebello, CA Jan 2025 – Feb 2025

- Developed preliminary site plan and elevation drawings for ADU permitting on a 3,464 sq ft residential lot by converting site measurements and project requirements into complete design documentation, submitted for city review.
- Surveyed site perimeter and existing conditions using laser measurement to establish property boundaries, driveway access, building footprint, and elevation differences across 7 proposed dwellings.
- Completed 3 design revisions in a 1-month schedule, delivering site plan and elevation drawings meeting city permitting documentation requirements.

Jewelry Manufacturing Technician (Temporary), Galaxy Gold– Los Angeles, CA Jan 2025

- Operated automated link-forming equipment to produce metal jewelry chains from 18–22 gauge wire, maintaining consistent link geometry and dimensional accuracy during continuous production runs.
- Troubleshot machine stoppages caused by tool misalignment and laser weld timing, adjusting machine settings and producing test links to restore proper operation within 20 minutes, minimizing production downtime.
- Performed 2-sample calibration verification by inspecting laser weld quality under a microscope and conducting elastic stretch tests on test links to confirm weld integrity and link geometry before restarting automated production.

Projects

Solar and Thermal Energy Systems (Capstone)

- Redesigned a flat-plate solar thermal collector, optimizing glazing, materials, and piping layout to improve thermal efficiency from 60% to 66%.
- Developed CAD models, manufacturing drawings, BOMs, and P&IDs to enable fabrication and system integration of a dual-storage thermal system, showcased at the end-of-year capstone engineering exhibition.
- Evaluated paraffin wax vs water-based thermal storage through hourly measurements, identifying water-based storage as the higher-performing solution.
- Reduced project costs by ~10% ($256) within a $2,500 budget through strategic material selection and sourcing.

Piston & Crank Assembly

- Designed a 2.1L piston and crankshaft assembly for a 91-octane fuel-efficient engine, modeling geometry, selecting materials, and defining load criteria to minimize bore wear and piston side thrust.
- Selected 4032-T6 aluminum and AISI 4340 steel based on thermal expansion, weight, and fatigue strength requirements, producing a fully constrained assembly and engineering drawings for all 8 components.
- Applied FEA in ANSYS Workbench under 6 MPa combustion and 8,500 N inertia loading, identifying 254.69 MPa Von Mises stress and safety factor of 1.23 at the ring groove wall, below the 1.5 target.
- Iterated ring groove wall thickness from 2.5mm to 3.5mm based on FEA findings, achieving an 18.9% stress reduction to 206.62 MPa and 22% safety factor improvement to 1.5, meeting the design target.

Jet Engine Assembly

- Recreated a 50+ component parametric jet engine assembly in SolidWorks across 9 subassemblies, developing proficiency in parametric relationships, design changes, and drawing accuracy.
- Applied feature-based modeling, mates and constraints, reference geometry, and configurations to demonstrate
- proficiency in top-down assembly design within SolidWorks.

Education

California State University, Northridge– B.S. in Mechanical Engineering Dec 2024