

ROBERT STEVENSON

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SUMMARY

Mechanical engineer designing manufacturable electromechanical assemblies in SolidWorks; partners with manufacturing/suppliers to drive DFM/DFA and corrective actions. Delivered platform standardization and modular redesigns (up to ~80% BOM cost reduction, ~50% fewer parts); strong eye for form/fit/finish (formal art training).

CORE SKILLS

- Mechanical component & assembly design (sheet metal, machined parts, plastic housings, fasteners) and electromechanical integration (PCBs, sensors/encoders, controllers, cable routing)
- 3D CAD (SolidWorks: CSWP) • manufacturing drawings • GD&T fundamentals • BOMs/document control
- DFM/DFA • prototype build support • troubleshooting • root cause & corrective actions
- Supplier/fabricator collaboration • manufacturing support • engineering change processes

PROFESSIONAL EXPERIENCE

Mechanical Engineer | Copar Solutions

Aug 2024 – Present | Burbank, IL (Chicago metro)

- Design and develop mechanical components and assemblies for corrugated packaging manufacturing control systems, including sheet metal and machined parts; create 3D models, drawings, and BOMs in SolidWorks.
- Own design iterations from concept through release; support builds and partner with manufacturing/suppliers to refine designs for manufacturability, serviceability, and cost; collaborate with electrical and software engineers.
- Troubleshoot electromechanical systems and investigate field/manufacturing issues; identify root cause and implement corrective actions to improve reliability and precision, including PCB layout/interface updates when production changes are needed.

Selected Design Projects (Copar)

- Encoder Platform Standardization: Consolidated four encoder variants (magnetic point wheel / optical slotted disk) into one programmable Hall-effect sensor (programmable pulse count) and redesigned cast-aluminum housings as compact plastic assemblies (PETG prototypes; planned SLS nylon); reduced BOM cost ~80%, cut part count ~50%, simplified SKUs, and lowered failure points.
- 100" Dual-Sided Overhead Display Redesign: Created a modular 100" two-sided overhead display enclosure with internal skeletal frame for stiffness/handling; added dual access doors, reduced parts, and cut assembly time ~25% (single-person build except display mounting), improving serviceability and labor cost.

ENGINEERING LEADERSHIP & ORGANIZATIONS

- Theta Tau (Project Lead): Led motorized trike + arcade cabinet builds; owned mechanical design, integration, assembly, and testing through multiple iterations.
- Engineers Without Borders: Supported BMX pump track build + bike repair/rebuild outreach; translated field constraints into practical design decisions.
- SAE Baja: Designed and built a Baja off-road vehicle frame for national collegiate competitions (CAD to fabrication); supported testing and race prep.

EDUCATION

B.S. Mechanical Engineering, Arizona State University — 2023

SolidWorks CSWP Certification — Earned | FE Exam (EIT track) — In progress