

Education

University of California, San Diego
Bachelor of Science in Mechanical Engineering

Skill Sets

SolidWorks (*Simulation, Modeling*)
Physics Based 3D Rendering
Siemens NX
Rapid Prototyping (*SLA, SLS, FDM, Photocure, DMLS*)
CNC Machining (*Mill, Lathe, 3-Axis & 5-axis*)
Photopia (*Optics Design*)

Reverse Engineering
Keyshot (*Physics Based Product Rendering*)
Metrology and Post-Processing (*Geomagic*)
Adobe Suite (*Illustrator, Photoshop, Lightroom*)
Unreal Engine
SAP ERP

Work Experience

Experienced in end-to-end premium product development from mechanical design, industrial design, DFM, CMF, physics-based 3D rendering, and an eye for form as well as function. Manufacturing processes including plastic injection molding, 3-axis & 5-axis CNC machining, metal die-casting & forging, sheet metal fabrication and stamping, weldments, optical injection molding, weatherized anodizing, laser etching, vacuum metalization, foam molding, pad printing, packaging design.

[Link To 3D Rendering Portfolio](#)

GoFastCampers (*Premium Outdoor Products*)

Bozeman, MT
March 2023 - May 2025

Manager, Product and Industrial Design

- Designed and engineered components for in-house automated machining cells producing 3-axis and 5-axis parts, optimizing manufacturability, precision, and production throughput for lights-out manufacturing
- Leveraged AI tools and local GPU-based rendering to rapidly visualize product concepts, enabling lean product development and early validation of customer interest
- Implemented and managed product design and engineering management through Phase Gate, PRFs, PRDs, ECRs, and ECOs
- Managed new product development in all five stages of the phase gate process
- Cradle to grave leadership in design and product strategy for low and high volume hard and soft goods (ex. V2 Pro)
- Collaborated with domestic and international manufacturing partners for softgoods, hardgoods, and electronics
- Responsible for CMF for all new products and brand collaborations

Ratpac Controls (*Global Film & Television*)

Burbank, CA
February 2022 - March 2023

Lead Product Design Engineer - New Products Reporting to CIO

- Recruited by C-Suite to launch New Products division
- Developed and launched a 200W battery-powered LED/Incandescent dimmer with XLR for DMX512, built-in wireless CRMX, WiFi Artnet & SACN, and temperature & circuit protection in a handheld form factor within five months, leading the market ahead of industry shifts
- Led all aspects of product development, including project management, industrial/mechanical/UI design, sourcing, thermal design, DFM/DFA, GD&T, testing, and ETL compliance
- Utilized real-time physics based rendering to visualize new products within engineering and design contexts with stakeholders at roundtable sessions at each stage of product development for alignment and feedback
- Collaborated with electrical engineers to design and package a silent, thermally optimized high-power DC-DC control board and secondary UI board with ribbon cable attachment
- Built an automated ECR management tool, streamlining submittal, approval, tracking, and notifications for engineering changes
- Experienced in SAP ERP for product development and change management

4 Wheel Parts R&D (*Offroad Accessories*)

Chula Vista, CA
March 2021 - February 2022

Mechanical Design Engineer

- Designed serviceable and multi-part, single axis, 400lb load bearing device for international manufacturing utilizing multiple materials and processes: cast A380 aluminum, forged 4140 steel, sheet metal, and heat treated machined components
- Created engineering drawing packs for individual components, sub-assemblies, and top-level assemblies for domestic and international manufacturing
- Led the development of patented concepts
- Led cross-functional teams, including department heads, managers, engineers, and in-house fabricators
- Managed drawings, BOMs, and Release to Manufacturing (RTM) process for new products
- Executed Engineering Change Requests (ECRs) and wrote detailed SOPs to streamline development
- Performed First Article Inspections (FAIs) and contributed to Design Standards for consistency
- Developed Technical Service Bulletin (TSB) solutions for in-field issues under high-pressure situations

Baja Designs (*Premium Offroad Lighting Accessories*)

San Marcos, CA
January 2019 - March 2021

Mechanical Engineer

- Led development of Baja Design's ELS (Effective Lighting Score) algorithm and scoring system, translating photometric performance data into a clear, customer-facing classification system.
- Designed custom low voltage pogo-pin PCB test fixtures with electronic readouts along with testing SOPs to validate electrical and luminaire functionality across 10+ distinct PCBAs, working with quality control to improve ergonomics and through-put
- Oversaw luminaire assembly for external photometric testing, ensuring accurate IES data for downstream 3D visualization and evaluation of real-world lighting performance in a digital twin environment
- Provided engineering support across design, manufacturing, and launch of five high-performance products: LP6, LP4, S1, and

NightHawk products

- Developed and implemented testing standards for seven products using vacuum and pressure decay leak test machines, ensuring IP69k compliance, reducing test times by 70%, improving yield, and minimizing warranty returns; created fixtures, SOPs, and QC metrics for on-site and off-site manufacturing partners
- Designed wire harness assemblies utilizing automotive connectors and terminals for various makes and models, collaborating with suppliers to ensure proper crimping, reliability, and compliance standards
- Cradle to grave development of XL Linkable from concept to launch in 7 months, managing design, sourcing, pricing, manufacturing, packaging, training, and marketing

Sirius Signal (Maritime, Electronic Visual Distress Signals)

San Marcos, CA

Mechanical Design (Part-Time Contract)

April 2018 - July 2025

- Mechanical and industrial design of the Electronic Visual Distress Signaling Devices (eVDSD)
- Contributed to bringing the C-1002 to market, making it the world's first electronic flare to meet the new USCG safety standard (RTCM 13200.0)
- Supporting final design and manufacturing stages, ensuring compliance and successful production
- Driving design with brand aesthetics, manufacturability, and ease of assembly
- Designing components for injection molding, foam polymers, plastics, and metal casting for U.S.-based production

University of California, San Diego Formula Society of Automotive Engineers (FSAE)

San Diego, CA

Senior Member, Treasurer

June 2015 - June 2019

- Modeled the formula car's side pod and bodywork using Siemens NX and SolidWorks
- Worked on subsystem integration, ensuring compatibility with undertray, suspension, chassis, and front wing elements
- Participated in fiberglass and carbon fiber layup for undertray, side pods, and bodywork
- Member of the racecar shakedown subteam, evaluating braking, acceleration, cornering, endurance, and data acquisition for competition prep
- Helped manage racecar budget and fundraising for the collegiate race team

SeaDrone (Underwater Drone Inspection Startup)

San Francisco, CA

Mechanical Design & Marketing

December 2018 - September 2019

- Mechanical design and concept development for accessories like battery charging docks and sonar attachments
- Supported marketing and content creation efforts, both online and offline
- Technical sales for the SeaDrone Inspector 3 for domestic and international maritime customers
- Created technical tutorials for software and hardware, improving customer understanding and usability
- Deployed product in various environments, including surf, open water, docks, piers, and depths up to 140 meters for testing

TP Engineering Services (Military Contractor)

Poway, CA

Mechanical Design Engineer

October 2018 - April 2019

- Led mechanical design and analysis of advanced engineering concepts for high-power laser and electro-optic technology
- Lead mechanical development for commercial, biomedical, and defense applications
- Converted technical and classified designs into CAD models and production drawings for sourcing and fabrication
- Worked with advanced technology companies providing services to large prime contractors

Hunter Industries / FX Luminaire (Architectural Lighting)

San Marcos, CA

Product Design / R&D Intern

June 2018 - Sept 2018

- Developed and modeling a new LED Flat Panel Wall Light for path and step illumination
- Created experimental optics models in commercial optical design software Photopia and validated with real world prototypes
- Designed of a 0.74" depth fixture, integrating a cast aluminum faceplate, diffuser, gasket, injection-molded backplate, LED board, and driver
- Introduced to IP67 standards and conducted environmental testing, including spray tests, thermal cycling, and immersion tests
- Performed temperature testing using thermocouples and data acquisition in various ambient conditions

Solid Concepts (Now Owned by Stratysys) (Corporate Rapid Prototyping)

Santa Clarita, CA

Research Intern

August 2014 - December 2014

- Modeled and prototyped a multi-angular test object for surface roughness evaluation
- Worked with 3D printing technologies, including ProJet, Stratysys Eden, FDM, SLS, SLA, and PolyJet
- Tested material, orientation, resolution, and print angles to analyze tolerances
- Provided insights to the Senior Manufacturing Engineer for corporate printing contracts