

Grant Ritter

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www.granritterdesigns.com
Sammamish, WA

Work Experience

Fresh Consulting, Bellevue, WA

September 2018-Present

Mechanical Engineer II

- Developed ruggedized hardware mounts and enclosures for autonomously guided heavy machinery
- Architected automated assembly and validation systems for high volume consumer product production lines
- Created fixturing nests and robotic end-effectors for high precision tests of PCB and mechanical components
- Incorporated pneumatics, actuators, and opto-electrical sensor suites to provide precise motion and data acquisition
- Designed injection molded and machined parts for consumer-grade computer vision and ML development platforms
- Prototyped production parts with in-house additive manufacturing processes alongside traditional methods
- Guided clients through the R&D process including ideation, DFM, fabrication, assembly, and delivery

Tesla, Palo Alto/Fremont, CA

January-June 2017

Mechanical Engineering Co-op, Interiors, Instrument Panel

- Designed and fabricated assembly line fixture used on over 30,000 Model 3 instrument panels
- Negotiated directly with suppliers to push for tooling changes between tight deadlines
- Performed rapid mockups on prototype parts to validate and drive executive-level design changes
- Oversaw and analyzed on-site testing surrounding the instrument panel and passenger safety
- Managed transfer of CAD files of instrument panel assemblies between supplier and design team
- Managed BOM changes and tracking for all left-hand drive and right-hand drive variants of Model 3
- Organized and tracked multi-national freight shipments of time sensitive parts and materials

Bose, Framingham, MA

January-September 2016

Mechanical Engineering Co-op, Continuous Improvement Engineering

- Designed and implemented tooling change in aviation headset to eliminate acoustic leak
- Guided injection molded plastic design through ECO process to facilitate low-risk, low-impact tool change
- Saved hundreds of hours of manual, repetitive testing by retrofitting existing fixture base for dual purpose
- Investigated ultrasonic welding as a source of cost savings, reliability, and future opportunities
- Assembled early-stage prototypes quickly and efficiently to facilitate timely product launch

SharkNinja, Needham, MA

January-June 2015

Quality Engineering Co-op, Shark

- Designed and built fixtures for maximum efficiency in research, testing, and development
- Identified build process defects at root cause and communicated corrective actions to manufacturer
- Examined incoming field-failures to pinpoint source of customer dissatisfaction
- Assisted team in developing new system to track and display test failures and corrective action status
- Identified key discrepancy in testing procedure to allow for more accurate KPI setting

Chesapeake Engineering Design, Annapolis, MD

June-August 2012

Intern at Forensic Engineering Firm

- Reengineered and improved repetitive load testing machine using SolidWorks and McMaster-Carr
- Shadowed engineers of various disciplines to determine root causes of structural failures

Education

Northeastern University, Boston, MA

May 2018

- BSME, ReGame VR Lab Assistant, Paradigm Hyperloop Team, Manual Machinist, and Machine Shop Assistant

Capstone [Senior] Design, Tesla Quick Attach and Release Mechanism for Interior Components

- Tesla-backed project to research and develop concept for interior modularity in future automobiles

Technical Skills

- SolidWorks 2016-2020, CATIA V5, NX 9, Bluehill, AutoCAD, MatLab, C++, Lean Six Sigma White Belt
- Advanced power tool, hand tool, and machinery operation, rapid prototyping, electro-mechanical assembly
- Automotive and marine mechanics, repair, operation, and modification

Background and Interests

- Woodworking, leatherworking, blacksmithing, sculpting, carving, drawing, cooking, and writing
- Minimalist design and aquascaping (aquarium design and aquatic gardening)
- Sailing, boating, rowing, and other water activities