TRISTAN ANTONSEN

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PRODUCT DESIGN & DEVELOPMENT ENGINEER

TECHNICAL SKILLS

CAD/FEA: SOLIDWORKS, nTopology, Fusion 360, Creo, Upchain,,Rhinoceros 3D, Grasshopper, 3-Matic, Blender
Languages: Python, Javascript, MATLAB, Git, Github
General: Additive Manufacturing, Injection molding, CNC Machining, GD&T, FEA, New Product Development

EDUCATION

Bachelor of Science in Mechanical Engineering; Minor in Art & Design — Spring 2020
University of Illinois at Urbana-Champaign

WORK EXPERIENCE

SENIOR RESEARCH & DEVELOPMENT ENGINEER — April 2022 to Present
Fast Radius

- Lead and manage strategic engineering projects between the software and manufacturing engineering teams.
- Lead the development of digital automation tools to augment manufacturing operations.
- Create automated costing logic (Python) for additive manufacturing technologies (DLS, MJF, SLA, FDM).
- Act as a subject matter expert (SME) for additive manufacturing on the Research & Development staff.

SENIOR DESIGN & DEVELOPMENT ENGINEER — October 2021 to Present
Fast Radius

- Lead new product development projects from concept to production including AS9100 qualified programs.
- Responsible for deliverables, DVP&R, and DFMEA on new product development projects.
- Created a manufacturing material selection tool distributed to all sales staff.
- Managed BOMs utilizing internal manufacturing along with domestic and overseas suppliers.
- Worked extensively in CAD to design parts for injection molding, CNC machining, and additive technologies.
- Performed structural analysis (FEA) on plastic and metal components.
- Lead and implemented the development of an automated supporting toolset currently used in Carbon DLS production demonstrating over a 95% reduction in hands-on time for bulk orders.

DESIGN & DEVELOPMENT ENGINEER — June 2020 to September 2021
Fast Radius

- Optimized parts for additive manufacturing with a focus on Carbon DLS and HP Multi-Jet fusion.
- Supported new product development projects from concept to production.
- Created single-unit customization workflows based on simulation data and user data.
- Developed toolsets for lattice structure design, topology optimization, and design automation.
- Provided photorealistic product visualization to ensure accurate communication of color, material, and finish.

APPLICATION ENGINEERING INTERN — June 2019 to May 2020
Fast Radius

- Designed and prototyped 3D printed, elastomeric lattice football helmet pads optimized for impact absorption.
- Developed test methods for characterizing compliant 3D lattice structures.

UNDERGRADUATE RESEARCH ASSISTANT — May 2017 to December 2019
Ewoldt Research Laboratory, University of Illinois at Urbana-Champaign

- Designed a vibration-isolating testbed for used to characterize viscoelastic fluids.
- Wrote test methods and MATLAB scripts to optically track and analyze the frequency spectrum of mechanical vibrations captured with high-speed camera footage.

PROJECT HIGHLIGHTS

Design for Production, HP MJF Assembly - Project Lead

- Optimize an HP Multi-Jet Fusion housing containing PCBs for production to meet yield and throughput targets.