TRISTAN ANTONSEN

DESIGN & DEVELOPMENT ENGINEER

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Mechanical engineer with experience in additive manufacturing, product development, and research and development of 3D-printed metamaterials.

SKILLS

Design & Engineering:

- Design for Additive Manufacturing
- New product development
- CAD and surface modeling
- Design automation
- Finite element simulation

Software:

- nTopology
- Rhinoceros, Grasshopper
- SOLIDWORKS (Fusion360, PTC Creo)
- Python, Matlab
- Materialise 3-Matic,

WORK EXPERIENCE

2020-Present **Design & Development Engineer** - Fast Radius

- Work with customers to design and bring innovative new products to market by leveraging additive and traditional manufacturing processes.
- Work extensively to optimize parts for Carbon DLS and HP Multi-Jet Fusion along with Stratysis FDM and Formlabs SLA technologies.
- Develop workflows and capability for single-unit customization from inputs such as simulation data, user data, and user preferences.
- Research and development of toolsets for intilligent lattice structure design and optimization, topology optimization, and design automation.
- Cross-functional assessment and onboarding of new digital manufacturing platforms.

2019-2020 **Application Engineering Intern** - Fast Radius

- Designed, prototyped, and 3D printed elastomeric lattice football helmet pads.
- Developed methodologies for designing and characterizing compliant 3D lattice structures.
- Co-designed product examples and provided photorealistic product rendering.
- Supported customer projects throughout the product development lifecycle.

2017-2019 **Undergraduate Research Assistant** - Ewoldt Research Laboratory

- Designed a mechanical vibration-isolating testbed for use in the characterization of viscoelastic fluids.
- Developed methodologies and MatLab scripts to optically track testbed vibrations and run signal processing operations in conjunction with a high-speed camera.
- Collected, analyzed rheometer data to characterize yield-stress, thixotropic, and viscoelastic fluids.

2017-2019 **Artist Blacksmith** - Antonsen Forge

- Sold handmade art, tools, and jewelry from steel, bronze, and other metals.
- Offered several production items along with bespoke custom pieces including knives, hammers, and other fully finished and heat treated steel tools.
- Offered small-scale introductory-level blacksmithing courses.

EDUCATION

University of Illinois at Urbana-Champaign
Bachelor's of Science, Mechanical Engineering, 2020
Minor: Art & Design

SECONDARY SKILLS

- 3D texture application
- Human-centered design
- Photorealistic product rendering
- Fabrication and prototyping (wood, metal)