Ethan Meister

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Education

The Ohio State University — Aug 2015 — May 2020
Bachelor of Science, Mechanical Engineering — Columbus, OH

Capstone: Designed, developed, and prototyped motorized finger that utilizes layer jamming variable stiffness technology, for use in a prosthetic hand

Work Experience

F.E. Moran Fire Protection of Northern Illinois — Dec 2020 — Present
Fire Protection System Designer, Engineering Department — Northbrook, Illinois

- Designed and planned the implementation of fire protection systems, including both new installations and modifications to preexisting systems
- Collaborated with salesmen, general contractors, and the Authority Having Jurisdiction (AHJ) to determine the scope of work and any constraints on the system design
- Determined additional system constraints by consulting construction drawings, surveying the site, and identifying applicable codes
- Created system designs that optimized for the predetermined, often-competing constraints, including cost, time to implement, system performance, material availability, code adherence, and aesthetics
- Verified system effectiveness using hydraulic calculations, allowing for iterative improvement of the system design for further constraint optimization
- Drafted technical drawings for AHJ approval and to guide the foreman in installation

IDEAL Industries — May 2018 — Aug 2019
Research and Development Engineering Intern — Sycamore, Illinois

- Researched the combination of cast Austempered Ductile Iron (ADI) and rapid tooling with 3D-printed sand molds, evaluating their potential to reduce cost of production and changeover time for low-volume products
- Worked with external companies to order ADI prototypes, performing both in-house tests on specimens and arranging independent external material testing
- Managed the Rapid Prototyping lab, which involved working with both SLA and FDM printers and directing a second intern to help in maintaining and troubleshooting operations
- Coordinated the fulfillment of orders from engineers, which often required modifying files and printer settings, working with engineers to fix unprintable elements, determining the acceptable trade-off in quality for reduction in print time, and reorganizing the print schedules based on shifting priorities
- Created a novel testing method to measure accuracy of spirit levels on which standard methods were infeasible, documenting this process in a test plan; additionally followed industry standard tool tests for accuracy and durability of tape measures and levels, strength of screwdrivers, and UV fade resistance of level vials

UGN, Inc. — Jun 2017 — Aug 2017
Process Engineering Intern — Tinley Park, Illinois

- Project lead on evaluating the incorporation of downstream materials into a vertically integrated process
- Analyzed potential optimizations for materials, labor, floor space, and shipping and storage logistics
- Collaborated with employees across each of UGN's five plants to collect the data necessary to evaluate prospective modifications to production
- Collected and analyzed quality control data due to high levels of out-of-spec parts being produced; determined and documented the various modes of failure

Skills and Distinctions

Software SOLIDWORKS (Dassault Systèmes Associate Certification for Mechanical Design), HSM CAM, ANSYS, Workbench, AutoCAD, HydraCAD, HydraCALC, Navisworks Manage (BIM), MATLAB, Simulink, Autodesk Inventor, Arduino

Technical GD&T, Tormach CNC machine, Bridgeport mill, SLA 3D Printer, FDM 3D Printer, Lathe, Plastic Injection Molding, Robotic Arm Control, Design for Manufacturing, Technical Writing, Basic Auto Repair & Maintenance

Leadership Experience

- **Division 1 NCAA Athlete**, The Ohio State Men's Gymnastics Team — Aug 2015 — May 2016
- **President**, The Ohio State Club Gymnastics Team — Aug 2019 — May 2020
- **Logistics Coordinator & Social Chair**, The Ohio State Club Gymnastics Team — Aug 2018 — May 2019