Molly Sharpe / ENGINEER

Cleveland, OH | mollycsharpe@gmail.com | 216 · 645 · 7967
Examples of Work Available at mollycsharpe.com

Professional Experience

PRODUCT ENGINEER **Jan 2023**
Precision Cast Parts, Airfoils | *Cleveland, OH*

- Product owner for NPI program, managing new tooling and fixtures, defining part-specific processes, implementing AOI, and driving customer-critical trials to meet sales timelines for qualification
- Continuously improved investment-casting processes by instituting effective scrap-elimination initiatives based on statistical yield analysis, dimensional probability studies, PFMEA, and cost-reduction opportunities
- Developed conceptual designs for required tooling, evaluating injection and compression molding capabilities with MoldFlow simulations and coordinated detailed build instructions with tool shops for part optimization
- Mentored university co-op students, guiding SMART goal-setting and task management, providing formal trainings and workshops, and supporting technical skill and professional development through project work

MECHANICAL ENGINEER **May 2021**
PAX Labs | *San Francisco, CA*

- Performed SolidWorks thermal and CFD simulations to improve device performance, updating part tolerances and CAD models per global manufacturer DFM and FAI
- Sourced and characterized new materials through Instron tensile and stress-relaxation testing, cracking pressure, and surface contact angle measurements
- Designed and validated test platform with custom adaptors, breakout sensor boards (pressure, temperature & humidity, MOX), and Arduino program to evaluate next-generation device features and inform design decisions
- Quantified perceived vapor quality and consumer experience by devising and administering a series of user studies, creating SOP for Health & Toxicology and Legal

ASSOCIATE MECHANICAL ENGINEER **Jan 2020**
Continuum Innovation | *Boston, MA*

- Programmed industrial-grade 2D machine vision system for automated optical inspection (AOI), allowing for high-speed image acquisition and identification of crucial features
- Designed spring-loaded mechanical testing apparatus, including GD&T drawings for over-seas manufacturing and formal test documents for contracted client in Belarus
- Troubleshooted PCBs utilizing multimeter and first principles, reworking surface-mount components to verify schematic and functionality

MECHANICAL ENGINEERING CO-OP **Jan -June 2019**
Ecosense | *Los Angeles, CA*

- ME lead for unreleased product, owning CAD, tolerance stack-up, and PCB interfacing
- Identified failure mode of existing components and improved performance through tool-safe modifications and design validation testing, releasing ECO with GD&T drawings
- Executed thermal, water ingress, load, and pull-force testing for engineering validation involving fixture design and construction, equipment set-up (thermocouples, force gauge, torque wrench), data analysis, & reporting
- Created custom fixture for WeWork NYC to display new technology by designing sheet metal parts and validating performance through thermal and CCT testing

Technical Skills

Applications: Siemens Nx, SolidWorks (PDM, Surfacing, Sheet Metal, Flow Simulation), AutoDesk MoldFlow, ANSYS, OnShape, AutoCAD, Microsoft Excel, Arena PLM, Adobe Suite
Programs: Minitab, JMP, SQL, MATLAB, C++, Arduino, Visual Basic (Excel Macros), Keyence & Cognex Systems
Hardware: FDM 3-D Printer, Laser Cutter, Instron, Bench Mill, CNC Mill, Lathe, Soldering, Thermocouples, Power Tools

Education

BACHELOR OF SCIENCE MECHANICAL ENGINEERING
Northeastern University | *Boston, MA*

Honors: University Honors Program (Top 10% of Class), Recipient of Dean's Scholarship & Presidential Global Scholarship