MIHIR PATKI

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Education

University of Massachusetts, Amherst — May 2023
Bachelor of Science in Mechanical Engineering
Relevant Coursework: Numerical Methods (MATLAB), Data Structures and Algorithms (Python), Fundamentals of Electrical Engineering, Nanomaterials and Sensors, Advanced Manufacturing/Polymers, Human Factors, System Dynamics, Fluid Dynamics, Heat Transfer, Mechanics of Materials, Calculus III, Ordinary Differential Equations

Certification

Engineer in Training / Fundamentals of Engineering (FE) — **EIT License #27667**

Skills

Software: 3D CAD (SolidWorks, Onshape, ANSYS), MATLAB, LabVIEW, Python, SQL
Lab and Shop: LECO, XRF, Instron, CNC, 3D Printing (FDM), Hand/power tools

Work Experience

Boston Metal - Electrometallurgy startup pioneering green steel manufacturing — Woburn, MA
Production Engineer (24/7 Rotating Shift Operations) — Jan - June 2024

- Operated and monitored pilot-scale Molten Oxide Electrolysis (MOE) systems at ~1600 °C, executing startups, shutdowns, and run transitions to maintain stable high-temperature operations for clean iron production
- Performed in-process monitoring, equipment adjustments, and mechanical troubleshooting to maintain product quality and minimize downtime during production runs
- Collected and analyzed operational data while coordinating with operators and engineers to execute experimental campaigns that generated datasets used to improve process performance and reduce scale-up risk

Lantheus - Radiopharmaceutical Manufacturing Company — Billerica, MA
Process Engineer Co-op — Jan - June 2023

- Implemented a Form-Fit-Function (FFF) analysis form to evaluate functional equivalence between new and existing parts 95% faster than a traditional Change Control, cutting assessment time from 1 week to 1 day
- Created a central knowledge repository that reduced lookup time by 90% by replacing a file-based system
- **Designed an innovative fixture** in SolidWorks to resolve an employee safety risk on manufacturing floor

Mauser - Global Packaging Company — Chicago, IL
Quality Engineer Intern — May - Aug 2022

Standardized SPC limits across multiple plants by auditing process controls against engineering drawing tolerances and collaborating with design and plant engineers to align quality controls with design intent

Projects

Cantilever Beam Design 1st Place - Sensata Technologies Engineering Challenge — Spring 2021

- **Designed and optimized an aluminum cantilever beam** to support a 1000 N tip load while maintaining a mass under 200 g and maximizing span length; selected an I-beam architecture and strategically redistributed material toward the fixed end to increase section modulus and bending stiffness.
- **Validated structural performance using beam theory and ANSYS FEA**, iterating geometry to balance strength, weight, and manufacturability constraints; delivered the longest beam meeting all criteria and won the engineering design competition.