CONNOR MCNEELY

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Summary

Mechanical Design Engineer with 5+ years of experience in CAD/CAE, machine design, automation, and process optimization. Proficient in SolidWorks (FEA, CFD), MATLAB, Python, and PLC programming. Proven track record delivering 75% downtime reduction and 50% efficiency improvements through innovative design solutions. Expertise in GD&T (ASME Y14.5), DFMA, Lean Six Sigma, and ISO/ASME/ASTM compliance. Skilled in cross-functional team leadership, technical documentation, and continuous improvement initiatives.

Core Skills

CAD/CAE Software:

SolidWorks (FEA, CFD, Simulation), AutoCAD, Inventor, CATIA, Fusion 360, FreeCAD, Mathcad, MATLAB

Engineering Analysis:

Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), GD&T (ASME Y14.5), DFMA, FMEA, Stress Analysis, Thermal Analysis, Structural Analysis

Automation & Controls:

PLC Programming (Allen-Bradley, Siemens), SCADA, HMI, Ladder Logic, Machine Vision (Cognex), Robotics (Fanuc), VFD, Control Systems, IoT Integration

Manufacturing & Processes:

CNC Machining, CNC Programming, 3D Printing, Injection Molding, Prototyping, P&ID Development, BOM Creation, Assembly Drawings

Standards & Compliance:

ISO 9001, ISO 1219, ISO 5199, ASME Y14.5, ASME B73.1, ASTM, ANSI, GMP, FDA, NEC

Process Improvement:

Lean Six Sigma, DMAIC, 5S, Kaizen, 8D Methodology, Continuous Improvement (CI), Root Cause Analysis, DOE

Programming & Data Analysis:

Python (TensorFlow, Scikit-learn, Pandas), SQL, Visual Basic, Machine Learning, Predictive Maintenance, Data Visualization

Professional Experience

Lead Mechanical Design Engineer

Pump Manufacturer | Youngsville, LA | December 2023 - Present

- Lead design and development of high-efficiency disc pumps using SolidWorks CAD/CAE, performing FEA and CFD simulations to optimize performance and reliability
- Achieved 20% pump efficiency improvement and 15% manufacturing cost reduction through DFMA principles and design optimization
- Execute complex engineering analyses in fluid dynamics, thermodynamics, and stress analysis, ensuring compliance with ASTM and ANSI standards
- Manage full prototyping lifecycle including material selection, component fabrication, and comprehensive performance testing
- Produce technical documentation including design specifications, assembly instructions, BOMs, and maintenance manuals
- Coordinate cross-functional teams across manufacturing, quality assurance, and supply chain for seamless project execution

Automation/Mechatronics Engineer

John Deere Turf Care | January 2023 - July 2023

- Reduced takt time by 20% and improved ergonomics by 30% through sensor, actuator, and MES system programming
- Programmed Allen-Bradley PLCs using ladder logic and maintained SQL databases for MES data integrity
- Managed SCADA systems and mistake-proofing tools including PLCs, HMIs, machine vision, and smart torque tools
- Led continuous improvement projects enhancing safety, quality, efficiency, and productivity on shop floor equipment

- Updated electrical prints, PLC programming, and HMI configurations to optimize equipment performance

Automation/Process Engineer
Sulfur Operations Support Inc. | September 2022 - December 2022

- Designed and analyzed molds for HP injection molding using CAD, FEA, and CFD, reducing costs by 20% and scrap by 15%
- Improved foam quality by 10% through scientific molding, RJG techniques, and DOE studies using Excel and MATLAB
- Troubleshot VFD issues for foam cutting machinery, boosting throughput by 25%
- Implemented Lean Six Sigma methods to improve cycle time, scrap rates, and process efficiency
- Enhanced inspection processes with image processing, IoT dashboards, and Kaizen initiatives

Inspection/Automation/Mechanical Engineer
Pfizer | McPherson, KS | September 2021 - September 2022

- Contributed to production of 759M vaccine doses, enhancing efficiency that helped Pfizer achieve #1 PatientView ranking
- Designed machine components using CAD (SolidWorks, Inventor, AutoCAD) and FEA, adhering to ASME Y14.5 GD&T standards
- Enhanced inspection processes with image processing (Cognex) and IoT dashboards ensuring GMP, FDA, and ASME compliance
- Generated FMEA documentation and implemented corrective actions to resolve quality issues in Inspection and Packaging
- Led Kaizen and preventative maintenance initiatives reducing waste, improving safety, and increasing productivity

Mechanical Design Engineer - Senior Capstone Project
Galaxy Products LLC | New Iberia, LA | August 2018 - August 2019

- Led design of CNC Pneumatic Gang Drill System, reducing machine breakdown time by 75% and improving drilling efficiency by 50%
- Managed multidisciplinary team conducting P&ID development (ISO 9001, ISO 1219) and SolidWorks CAD modeling with PLM integration
- Designed and manufactured aluminum mounting system using CNC milling and lathe, adhering to ASTM B209, ANSI B5.45, DFMA, and GD&T (ASME Y14.5)
- Performed FMEA, CFD, and FEA analyses ensuring structural integrity, reliability, and ASTM/ASME compliance

Education

Bachelor of Science in Mechanical Engineering
Louisiana Tech University | Ruston, LA | August 2015 - August 2020

Key Coursework: Dynamics, Fluid Mechanics, Machine Learning, Advanced CAD/CAE, Thermodynamics, Control Systems

Certifications and Training

- SolidWorks Professional (CSWP) - Certified
- Lean Six Sigma Methodology Training
- PLC Programming (Allen-Bradley, Siemens)
- Machine Learning and Python Programming
- ISO Standards Expertise (ISO 9001, ISO 1219, ISO 5199)