

Mark McAleer

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Skills

Leadership - Organization - Reliability - Problem-solving - Teamwork - Design Real-Life Mechatronics Solutions to Problems

Objective

I am enthusiastic about applying my developing expertise in mechatronics to real-world scenarios, aligning with your company's needs and challenges. My passion for engineering, technical skills, and problem-solving abilities will positively impact your company.

Internship

Nucor Steel, Marion, OH, May 20, 2024 - August 17, 2024

Nucor Process Engineering Internship - Projects and Accomplishments

Internship Projects

1. HMI updated with mill recipes using recorded mill settings from successful production days.
2. Design and fabricate 3 multi-strand transfer tables for #3 bar 4 strand, #4 bar 3 strand, #5 bar 2 strand, and #6 bar 2 strand.
3. Design and fabricate inner bearing race removal system. A rolling tray will be installed on the table to allow the induction heater to slide onto the inner race without using a crane.
4. Redesign and fabricate new multi-strand snip shear to be used in mill looper.
5. Replace cow catcher cobble wall with hot bar shredder.

Internship Accomplishments

1. Observed and assisted in maintaining the mill on down days
2. Participated in the orientation to understand the safety standards and possible hazards encountered in the mill.
3. Developed professional skills and habits at Pennsylvania Western University and Nucor Steel. During my three years at Pennsylvania Western University, I developed valuable skills and work habits that I am applying to the Nucor Steel, Marion, Ohio internship. These include a strong work ethic, excellent problem-solving abilities, and effective communication skills. I work collaboratively in team settings in group projects and real-life applications at Pennsylvania Western University and with my Nucor team. In both settings, I have taken on leadership roles, learned new systems in the steel industry, thought about alternative ways to complete tasks, organized assigned projects, and solved problems.
4. Designed transfer table to be fitted with replaceable vertebrae tubes to transfer hot bar from 16 stand to roller tables leading to the hotbed.
5. Use Autodesk INVENTOR, a computer-aided (CAD) application, for 3D mechanical design, simulation, visualization, and documentation.

Pennsylvania Western University, California, PA - B.S. in Mechatronics Engineering

August 2021 - May 2025 (B.S. to be awarded in May 2025), GPA - 3.90

Mechatronics Engineering Major: Combining mechanical and electrical engineering, computer science, and control systems

Chartiers Valley High School, Bridgeville, PA - High School Diploma, Academic Honors, Awarded May 2021

College Preparation - Engineering, Technology, German, Physics, Chemistry, Algebra I, and II, Geometry, Trigonometry

Experience

Pennsylvania Western University, California, PA - Student Equipment Manager, Summer and Fall, 2021 - 2024

Supporting the football program, I provided the team with the services and equipment including setup and breakdown of equipment, problem-solving during the game, and assisting the players and coaches.

Auntie Anne's – Manager - May 2023, 2022 - August 2023, 2022

Managing one shift daily, I prepared the store for daily operations, assigned jobs to the workers, created payroll documents and tip payouts, and problem-solved with the owner to ensure smooth franchise operations.

Auntie Anne's - Crew and Cashier - May 2022, 2021, 2020, 2019 - August 2022, 2021, 2020, 2019 Followed the procedures to set up, operate, and close the store and problem-solve all situations that occurred.

Awards and Activities

Eagle Scout

Black Belt in Karate

Chartiers Valley ShowBand

Applied Engineering & Technology Excellence Award

Odyssey of the Mind PA State Finals Team Member and Regional Primary Team Cocomach

Fluid Power Design Challenge Winner

Academic Honors Recognition 3.75+ High School GPA for three (3) years

PennWest Marching and Concert Bands

Pennsylvania Western University Dean's List 3.90 GPA entering senior year

Membership

Materials Advantage Membership

Languages

English

German

Programming: C, Ladder Logic

Eagle Scout Project

For my Eagle Scout project, the Panhandle Trail buildings were assessed and renovations to the Collier Township section were planned and completed. Four pavilions needed restoration, and I led the process with the help of other scouts. The restoration included power washing, purchasing the materials, restoring wooden uprights, and painting four pavilions and nearby benches. With the project complete, I am proud to be an Eagle Scout.