

ANDREW TREPAGNIER

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EDUCATION

MISSISSIPPI STATE UNIVERSITY – Overall GPA: 3.51/4.00

Starkville, MS

Bachelor of Science, Mechanical Engineering

Expected Graduation: May 2025

- Montgomery Leadership Scholar, MSU Venture Catalyst Founder, Engineering Student Council Officer, Mississippi High School Science and Engineering Fair Judge

PROFESSIONAL EXPERIENCE

HIGH PERFORMANCE COMPUTING COLLABORATORY

Starkville, MS

Undergraduate Student Researcher

August 2024 – Present

- Implemented and validated a machine learning model to approximate interatomic potentials of various elements for molecular dynamics simulations
- Utilized supercomputers to process Density Functional Theory(DFT) simulation of 10,000+ data points, including debugging and manipulation of data for the machine learning model
- Verified the accuracy of the ML model's results through rigorous validation and error mitigation procedures, such as ground fault stacking energy calculations(python-based)
- First Author of "Pure Crystalline Yttrium Artificial Neural Network Potentials". Under construction, to be submitted for publication review

ERGON REFINING, INC.

Vicksburg, MS

Project Engineer Co-op

Fall 2023

- Completed six capital projects across refinery averaging between~\$100k-\$200k each, from early front-end scoping through project implementation and startup
- Prepared and presented total installation cost estimates, scope of work documentation, bid packages, and various civil, structural, and piping drawings/models of projects to the engineering management team
- Handled all project design, material procurement, and project management tasks of a \$150k Piping Metallurgy Upgrade project implemented during unit shutdown
- Reviewed all civil, structural, and piping drawings for a \$1.7MM Compressor Relocation Project with a team of project engineers to ensure project execution quality and verify all ERI standards were met

Maintenance Engineer Co-op

Spring 2023 | Summer 2024

- Coordinated a refinery unit shutdown, which included extensive scope planning, procurement, and "Management of Change" (MOC) documentation with unit engineers and craftsmen. Resulted in a swift, effective outage by meeting the unit's firm four-day shutdown deadline
- Made rapid maintenance repair plans for daily piping and mechanical failures throughout refinery. This effort included the creation of engineering drawings, MOC documentation, coordination of repair schedule, and procuring all materials

ADDITIONAL INFORMATION

- **Technical Skills (1+ year experience):** AutoCAD, AutoCAD Plant 3D, Advanced Steel, Navisworks, SAP
- **Certifications:** SolidWorks Associate Technician, OSHA 10 Hour Training
- **Languages/Frameworks:** Python, Linux Shell, MATLAB, C++

HONORS AND AWARDS

- **\$40,000 Exxon Mobil Teagle Scholarship Recipient** – 1 of 113 students selected globally based on academic excellence and outstanding leadership potential
- **\$250 People's Choice Award** – Pitched "SkyPasture", an ag-tech startup, in the 2024 MSU Startup Summit and was 1 of 4 student-based startups to win the "People's Choice Award" out of 55 total startups and subsequently raised over \$750 in Venture Catalyst Program funding.