

# Noah Frank

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## EDUCATION

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### Georgia Institute of Technology

Atlanta, GA

*Master of Science in Mechanical Engineering (GPA 3.86)*

*Jan. 2025 – Dec. 2025*

*Bachelor of Science in Mechanical Engineering (GPA 3.87)*

*Aug. 2021 – Dec. 2024*

## EXPERIENCE

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### LyondellBasell

Multiple Locations

*Machinery Engineering Co-Op*

*May 2024 – Aug. 2024*

- Developed comprehensive job note outlining requirements for \$500k overhaul of 13-ton cooling water pump
- Spearheaded initiative to assess 200 turbines for overspeed protection and trained 3 team members
- Identified and reported exposed fans on 2 fin-fan heat exchangers, eliminating serious field hazard

*Manufacturing Engineering Co-Op*

*May 2023 – Aug. 2023*

- Designed container yard expansion with AutoCAD, doubling storage capacity to over 400 containers
- Enhanced process water filter design to reduce frequent malfunctions, saving 30 min/shift in downtime
- Conducted safety audit to remediate 4 pellet spills, reducing workplace hazards and environmental runoff
- Redesigned production report and meetings to focus on root causes and broader trends in shutdown events

*Reliability Engineering Co-Op*

*Aug. 2022 – Dec. 2022*

- Completed MOC to add block valves to 2 pulsation dampeners, eliminating nitrogen leaks and vibrations
- Collaborated with vendors to fill in missing BOMs for 50 pumps to allow for accurate inventory management
- Identified and corrected error in major compressor's BOM, preventing unnecessary \$600k spare parts expenditure
- Validated over 100 P&IDs for Leak Detection and Repair (LDAR) to reduce Title V deviations

### Georgia Tech Tutoring & Academic Support

Atlanta, GA

*Dynamics Learning Assistant*

*Aug. 2023 – Dec. 2024*

- Revamped course webpage for clarity and accessibility and created a formula sheet to improve student experience
- Facilitated weekly office hours to support student learning and engagement, helping 10-20 students per week
- Delivered 3 course lectures to 60-student classes, using physical demonstrations to boost engagement

## PROJECTS

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**Sloshzero** | *Python, Ax, FastAPI, Javascript, CSS, HTML, Git, Docker*

- Developed a full-stack web app to optimize baffle design for tanker truck trailers
- Implemented multi-objective Bayesian optimization algorithm in Ax with FastAPI for trial deployment
- Designed a JavaScript/CSS/HTML dashboard for scheduling trials and results visualization
- Integrated Git and Docker for streamlined development and deployment

**Sleep Stage Classification** | *Python, Scikit-Learn, Optuna, Postgres, Slurm, HDF5, EDF, Git*

- Developed machine learning model for classifying sleep stages using single-channel EEG signals
- Optimized model accuracy and memory usage over multiple classifiers using NSGA-II algorithm in Optuna
- Automated optimization on HPC using batch job scripts and Slurm directives for efficient resource management
- Converted and conditioned EEG signals in EDF format into ready-to-use HDF5 for analysis

**Multi-Purpose Wave Energy Platform**

- Designed offshore platform to harness energy from ocean waves and deliver it to isolated coastal communities
- Managed a 6-person team by delegating responsibilities, setting deadlines, and holding check-in meetings
- Performed dynamics/vibrations analysis to validate the stability and buoyancy of the platform

## TECHNICAL SKILLS

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**Languages:** Python, MATLAB, Java, C/C++, Bash, SQL (Postgres), JavaScript, HTML/CSS, R

**Libraries/Frameworks:** FastAPI, Slurm, Dask, Ax, Scikit-Learn, NumPy, Pandas, Matplotlib

**Developer Tools:** Git, Docker, Google Cloud Platform, VS Code, Vim, Linux

**CAD/Engineering:** Ansys (Workbench), SolidWorks, AutoCAD, Autodesk Inventor, SAP, Bluebeam Revu, MS Excel

**Certifications:** Lean Six Sigma (Green Belt), OSHA 30 Hours, CPR & AED