

Kayla Martinez, EIT
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<https://rhit-martinkr.github.io/KaylaM/>

Education:

Bachelor of Science, Mechanical Engineering

May 2024

Minor in Computer Science and Robotics

Rose-Hulman Institute of Technology, Terre Haute IN

Related Courses: Graphical Communications, Computer Applications, Machine Learning, Deep Learning, Heat Transfer, Data Structures and Algorithms, Control Systems, Thermodynamics, Computer Visions, Mobile Robotics, Mechatronic Systems, Robotic Dynamics and Controls

Skills:

SolidWorks, MATLAB, Simulink, GitHub, Python (NumPy, Pandas, Matplotlib, PyTorch, ScikitLearn, TensorFlow), GitHub, OpenCV, C/C++, Java, and Microsoft Visio

Work Experience:

Trane Technologies – Controls Project Engineer

June 2024 – Current

- Provided leadership to internal and customer-facing projects with technical guidance for HVAC BAS across the Midwest.
- Managed a portfolio of electromechanical engineering projects with varying degrees of difficulty by providing cost analysis, technical documentation, and efficiency evaluation
- Developed familiarity with communication protocols such as BACnet/MSTP, BACnet/IP, LonTalk, and Modbus
- Integrated a variety of HVAC units and sensors to achieve full functionality of control systems

Envelop Group – Controls Engineering Intern

Summer 2023

- Produced flow diagrams, sequence of operations, network layouts, and electrical schematics
- Ensured functionality of HVAC control systems by troubleshooting
- Performed device verification, loading, and commissioning of system controllers

Brazeway – Manufacturing Intern

Summer 2022

- Documented need and production loss due to current deficits current process
- Generated multiple prototypes to aid in manufacturing processing using CAD
- Ran multiple heat dependent trials on aluminum press for optimizing throughput

Engineers Without Borders – President

January 2023 - January 2024

- Engineered solutions with team to help underprivileged community in Ecuador
- Communicated with professional mentors for project advice
- Lead club events by planning fundraisers in advance, marketing events to fellow students, and overseeing logistics

Projects:

NASA Sample Return - Senior Capstone Project

August 2023 - May 2024

- Won the Mechanical Engineering department award for designing a fully automated sailing system to maintain integrity of a hypothesized asteroid
- Completed multiple calculations to validate final product
- Used computer vision techniques to aid in automation of design
- Programmed six-axis robot using inverse kinematics to perform desired tasks

Heart Disease Predictor

May 2024

- Processed dataset to run multiple machine learning experiments and identify most impactful variables
- Created Logistic Regression, Decision Tree, KNN Classifier, and Random Forest Classifier models to predict if an individual will develop heart decision
- Performed tuning to determine best parameters for each model

Certification:

Engineer in Training (EIT) Certification

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