

# Natalie Tinklenberg

(269) - 352 - 7787 · [ntink@umich.edu](mailto:ntink@umich.edu)

[www.linkedin.com/in/natalie-tinklenberg-3982b5270](https://www.linkedin.com/in/natalie-tinklenberg-3982b5270)

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## Education

University of Michigan · Ann Arbor, MI

8/22 - 4/26

B.S.E Electrical Engineering · GPA: 3.91 · Sophomore

- Dean's Honor List
  - Minor in Climate and Space Science
  - Study Abroad in Berlin (2023): Developed fundamentals of German language and Python modeling skills at Technische Universität Berlin
  - Relevant Coursework: Intro to Electronic Circuits, Programming and Intro to Data Structures, Intro to Signals and Systems, and Electromagnetics
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## Experience

Low Voltage Subteam Lead · University of Michigan SPARK Project Team

9/22 - Present

- Manage a team of 8 through V-model development to design an electric motorcycle's power and data systems infrastructure ensuring integration of 4 primary systems
- Implement and test system data infrastructure via **CAN I/O** to allow for telemetry and real-time system adjustments
- Test and incorporate 10 analog and radiometric sensors in order to validate crucial design decisions and collect essential race-time data

Electrical and Test Engineer Mentorship · Stryker

3/22

- Shadowed Stryker Electrical and Testing Engineer learning concepts of **3-D modeling**, **LIDAR**, and dynamic accuracy testing through the lens of in-development neurosurgery technology
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## Projects

Renewable Energy Systems Modeling · Technische Universität Berlin

5/23 - 6/23

- Optimized renewable energy grid systems model for Traverse City, Michigan with a team of 3 utilizing **Spyder** software and **Python** resulting in a system providing 101.5 GWh per year at 0.11 \$/KWh levelized cost of energy
- Compiled findings of renewable grid system and further system model improvements into a detailed presentation and 28-page report

Phosphate Concentration Sensor · University of Michigan

1/23 - 4/23

- Conceptualized and constructed a remote phosphate concentration sensor consisting of an **Arduino** Uno, IR sensor, and solar power source in order to detect concentrations at 0.01 to 0.1 ppm
  - Facilitated system calibration relating raw sensor data to IR absorption levels for known concentrations
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## Leadership

SPARK Electric Racing Low Voltage Subteam Lead · University of Michigan

9/22 - Present

Model United Nations Co-President · Mattawan High School

9/21 - 5/22

Young Women's Advocacy of Mattawan Vice President · Mattawan High School

9/21 - 5/22

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## Skills

Altium   LTSpice   Matlab   C++   Python   Electrical Testing   Soldering   C#