

LUKE NELSON

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SKILLS AND ASSETS

Proficiency in Programming Languages: C++, Python, HTML5/CSS3/JavaScript, Node JS, MATLAB

Software: Git/GitHub, Visual Studio Code, Node Project Manager, MySQL, React

Skills:

- Skilled in using Python for data processing and algorithms. Experienced in TensorFlow for Machine Learning and Data Manipulation / Visualization (i.e. Scikit-learn, Matplotlib, Seaborn, Pandas).
- Strong proficiency in front-end development, creating dynamic web apps with JS, expertise in React/Next.js frameworks.

EDUCATION

University of Michigan College of Engineering

Ann Arbor, MI

Bachelor of Engineering in Computer Science, Minor in Economics

Expected Graduation: May 2025

GPA: 4.00/4.00

Course Highlights: Data Structures and Algorithms (Python) • Introduction to Matlab and C++ • Introduction to Autonomous Electric Systems • Multivariable and Vector Calculus • Introduction to Differential Equations • Discrete Mathematics • Data Structures and Algorithms (C++)

Salem High School

Canton, MI

GPA: 4.28/4.00 • National Merit Finalist • International Baccalaureate Diploma • National Honor Society

COLLABORATIVE PROJECT EXPERIENCE

SPARK Electric Racing

Ann Arbor, MI

Software Engineer, Data Subteam Programmer

August 2023 - Present

- Designing and programming a comprehensive diagnostic and data display system, enabling riders and technicians to monitor critical performance metrics such as battery health, motor temperature, and power consumption.
- Developing and integrating a real-time telemetric system enabling SPARK's electric motorcycle to communicate its diagnostic data for remote access by users through a web app.

Aerodynamics Engineer

November 2022 - July 2023

- Working in a team of engineering students to design, simulate, and manufacture a high downforce aero package for a motorcycle using tools such as computational fluid dynamics, resulting in increased traction and higher cornering speeds.

ENGR 100.400 (Self Driving Cars, Drones, & Beyond - Autonomous Electric Systems)

Ann Arbor, MI

Programmer

August 2022 - December 2022

- Worked with a team to simulate and test an autonomous solution using Python and a drone simulation powered by Unreal Editor. Mission statement was for a quadcopter to map cavernous, underground environments, and be capable of autonomously adjusting to external factors in its environment.

INDIVIDUAL PROJECTS / PORTFOLIO

Website - www.lukednelson.com

My portfolio website, made using a next.JS (React) framework, displaying information about me and my projects. (Still a bit under construction).

LDN Recruits

- Used a python backend to scrape the four major college football recruiting sites for data, and to create an interactive database which presents historical recruit data, which is not available on any other site. Used vanilla JS and next.JS to program server-client interaction.

LEADERSHIP EXPERIENCE

Eagle Scout, Troop 1537

Plymouth, MI

Senior Patrol Leader 1 term, Assistant Senior Patrol Leader 3 terms, Earned Eagle Scout Award

June 2020 - May 2022

- Organized and led a troop of ~75 boy scouts as the highest position of scout leadership for 6 months, and performed associate leader role for 18 months.

ORGANIZATIONS / ACCOLADES

Tau Beta Pi

Engineering Honor Society

SPARK Electric Racing

Nov 2022 – Present

Eagle Scout, Troop 1537

Feb 2016 – November 2021

Michigan Running Club

Sept 2022 – Present