LUKE NELSON

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SKILLS AND ASSETS

Proficiency in Programming Languages: C++, Python, JavaScript, Node.JS, HTML5/CSS3, MATLAB, R
Software: Git/GitHub, Visual Studio Code, Node Project Manager, MySQL, React
Skills:

- **Skilled in Python for data processing, machine learning, and algorithms. Experienced in TensorFlow for Machine Learning and Data Manipulation / Visualization (TensorFlow, Keras, Scikit-learn, Matplotlib, Seaborn, Pandas).**
- **Strong proficiency in front-end development, building 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 *Graduation: May 2025*
GPA: 4.00/4.00
Course Highlights: Data Structures and Algorithms (Python) • Data Structures and Algorithms (C++) • Introduction to Matlab and C++ • Introduction to Autonomous Electric Systems • Discrete Mathematics • Multivariable and Vector Calculus • Differential Equations

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 Sub-Team 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*

- Designed, simulated, and prepared to manufacture a high downforce aero package for a motorcycle utilizing softwares such as computational fluid dynamics, resulting in increased traction and higher cornering speeds.

Autonomous Electric Systems **Ann Arbor, MI**
Programmer *August 2022 - December 2022*

- Developed a Python PID script integrating three-dimensional LiDAR sensor data to enable an autonomous quadcopter's precise navigation within a complex cave environment, ensuring obstacle avoidance, autonomous navigation, and efficient grid mapping in an environment created in Unreal Editor.

INDIVIDUAL PROJECTS / PORTFOLIO

Website - www.lukednelson.com
LDN Recruits - lukednelson.com/ldnrecruits

- Engineered a Python backend to scrape four major college football recruiting sites for data, and to construct an interactive database which presents historical recruit ranking data, a feature not available on any other site. Programmed with 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

Eta Kappa Nu - ECE Honor Society *Sep 2023 - Present*
SPARK Electric Racing *Nov 2022 – Present*
Eagle Scout, Troop 1537 *Feb 2016 – November 2021*
Michigan Running Club *Sept 2022 – Present*