NATHAN NAKKAPALLI

Email: nnakkapa@umich.edu | LinkedIn: www.linkedin.com/in/nathan-nakkapalli-741633285 | U.S. Citizen

Detail-oriented and enthusiastic about *contributing to high performance technology*

The University of Michigan | College of Engineering | CGPA: 3.6 **Expected graduation: 2024**
B.S.E Computer Engineering & Minor in Physics

Coursework: Advanced Data Structures & Programming, Circuits, Systems & Signals, Quantum Mechanics, Logic Design with Verilog, Computer Organization, Embedded Systems, Machine Learning, Computer Vision

Hobbies: basketball, football, spike ball, hiking, reading, cybersecurity ("breaking" technology)

Relevant Experience

Intrepid Control Systems | Embedded Intern | Troy, Michigan *June 2023 – August 2023*

- Supported Performance Hardware Application's Team firmware testing efforts by developing a C++ GUI application for Ethernet Data Analysis, outputting statistics and error diagnosis info
- Created documentation including User Guide, design choices, flow chart of execution, and debugging tips
- Identified a missing edge case as well as subtle syntactical bug in an existing codebase
- Engineered 12 custom-made wires to connect two (previously incompatible) hardware devices using schematics, soldering, and continuity testing, resulting in expanded testing and debugging capabilities
- Fixed a power cable by soldering new connections with new wires and emphasizing wire strain-relief design, increasing robustness of cable while also saving money

Spark Electric Racing | UMICH Electric Motorcycle Project Team *Sept. 2021– Present*

- Conducted code review of CAN bus data parsing script written in Python, assessing the correctness of the bit shifting and adding comments for understandability
- Met and communicated with team leads to verify that the correct bytes were being assigned to the right data values and accurate plots were being made with the matplotlib Python module

Interned at Over Zero | Qualitative Content Coder *Nov. 2021 – Mar. 2022*

- Coded (categorized) qualitative survey data (350+ survey responses) using analytics software
- Achieved sufficient levels of intercoder reliability by meeting with a colleague, discussing our reasoning behind our categorizations, and resolving our conflicts

Research & Execution

AP Research | Researcher and Self-published **(**https://nat3058.github.io/research.pdf) *May 2020*

- Conducted literature review, executed survey research methods, and analyzed the results
- Authored formal 30-page paper regarding marching band retention to assist marching band directors

Volunteering: Tutored elementary/middle school students weekly *Mar. 2020 – Nov. 2021*

- Reinforced reading/writing/math skills via Zoom by creating my own lesson plans/interactive games & using Quizlet resources, strengthening kids' academic abilities despite pandemic

Technical Projects

Assembled a crowd density approximator *Dec. 2022*

- Wrote a Python script utilizing open-source software to interface with Apple Airdrop and estimate the number of people in one floor of a university library (using data extrapolation)

Built a SQL-like database in C++ (1000+ lines of code) *Nov. 2022*

- Programmed using data structures like hash tables and binary search trees for much faster data retrieval

Personal projects including my own Prime Factorizer: https://github.com/nat3058

- Created original C++ program to prime factorize 9 figure numbers in < 3 seconds with recursion

Notable Skills/Tools: Word, Excel, Terminal, Git, MATLAB, Python, C++, Verilog, Wireshark, Altium

Campus Involvement & Accolades

ENGR 110 Course Staff | Departmental Ambassador	*2023 - Present*
UMICH Engineering Student Government | Senator	*2023 - Present*
Michigan Forensics Speech and Debate | Vice President	*2022 - Present*
Barger Leadership Institute | Social Transformation Fellow and Member	*2022 - Present*
MSAIL (Michigan Student Artificial Intelligence) | Member and Mentee	*2021 - Present*
2nd place in the P&G Employer Challenger	*2023*
Spartahack Hackathon	*2023*
UMICH Ross Business + Tech | FinTech Challenge	*2023*
UMICH Ross Business + Tech | Datathon	*2023*
CEN Business Challenge | Pitch2Win Competition	2023
UMICH Center for Socially Engaged Design | Innovation in Action	*2023*
Creativity in the Wayfair Employer Challenge (Honorable Mention)	*2022*
College of Engineering Dean's Honor List	*2021 & 2022*
COR Capture the Flag Competition	2*022*
UM Regents Merit Scholarship	*2021*