

Education

BSc (Engineering)	University of Michigan	August 2020 – April 2023
<ul style="list-style-type: none">• Major: Computer Science• 3.8/4.0 GPA• Organizations: M-STEM Student Council Board, Michigan Data Science Team, Undergraduate Research Opportunity Program• Coursework: Static/Dynamic Compilation, OS, ML, DS/Algorithms, CV, Web Systems		

Experience

CS Research Fellow	Google	September 2022 – Present
<ul style="list-style-type: none">• Selected to join competitive 12 week research program by Google Computer Science Research Mentorship Program (CSRMP). I will work 1:1 with a Google mentor on navigating Machine Learning and Compilation research.		
AI Fellow	University of Michigan	August 2022 – Present
<ul style="list-style-type: none">• Accepted into fellowship where I will partake in a project to fuse the basic safety messages (BSMs) from vehicles with bounding boxes from smart intersections in realtime to potentially reduce unimpaired crashes by 90%.• Will partner with startup P3 Mobility to deploy our product in Ann Arbor intersections once it is finished.• Will partake in Entrepreneurship courses with Ann Arbor startups and global treks with high-impact companies in San Francisco, NYC, and DC to discuss leveraging Entrepreneurship with AI.		
Cybersecurity Intelligence Intern	Ford Motor Company	May 2022 – July 2022
<ul style="list-style-type: none">• Automated ThreatConnect tag and attribute source rename, merge, and deletion through Rest API calls and MySQL commands, providing Intelligence analysts valuable insight on detecting malicious campaigns.• Validated 174 Indicators of Compromise to judge maliciousness of IPs, addresses, domains, URLs, and file hashes reported by the Detection team.• Undertook the Intern City of Tomorrow project to design a way to improve mobility in urban environments using autonomous vehicles and advanced mobility technologies.		
Software Engineer Intern	General Motors	June 2021 – August 2021
<ul style="list-style-type: none">• Optimized the OnStar Activity Map webapp, reducing vehicle emergency system access time from upwards of a few minutes to nearly instantaneous.• Designed and created a user interface with Java and JavaScript to allow easier and more intuitive access of vehicle emergency systems. Leveraged Maven for backend build automation and WebLogic for webapp deployment.• Migrated from using an RDD architecture for fault-tolerance in each data center for our Hadoop cluster to implementing direct HDFS replication, further securing GM data.		
ML Researcher	University of Michigan	Sep. 2020 – April 2021
<ul style="list-style-type: none">• Reduced segmentation time from around 30 minutes per abdominal CT scan using previous technologies to under 5 minutes using Python's Sklearn ML framework and MATLAB for Image Processing.• Achieved Dice-Sørensen Similarity Coefficient of 54% using U-NET Convolutional Neural Network.		

Personal Projects

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- **Decaf Static Compiler** – Developed front-end and back-end compiler for toy C-like language, Decaf, using C++. Front-end compiled to TAC IR using Lex/Yacc. Back-end register allocation using Graph Coloring heuristic Chaitin's Algorithm and optimizations using Dead Code Elimination, Common Subexpression Elimination, Forward Copy Propagation.
 - **Linux Kernel** – Optimized open-source drivers and kernel modules. 7 pulled commits.
 - **Street Fighter II AI** – AI based on Deep Q Reinforcement Learning and Convolutional Neural Network that plays SNES game Street Fighter II. Written using Python frameworks PyTorch for RL and CNN and Gym Retro for emulation. Wins 88% of matches compared to a random model that wins 23% of matches.

Skills

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- **Languages** – Python, C, C++, Java, JS, MATLAB
 - **Softwares** – LLVM, Lex/Yacc, PyTorch, Git, Bash, Linux, MySQL
 - **Certifications** – Scaled Agile Framework (SAFe) 5.0 Practitioner