Owen Park

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Education

University of Michigan   **Ann Arbor, MI**
B.S.E. in Computer Engineering   *May 2025*
- **GPA:** 3.92 / 4.0
- **Coursework:** Computer Architecture, Operating Systems, Embedded Systems, Data Structures and Algorithms, Wireless Systems, Signals and Systems, CS Pragmatics, Discrete Math, Calculus I-IV, Linear Algebra

Experience

Magna International   **Troy, MI**
Incoming Embedded Software Engineer   *Summer 2024*
- Writing C++ firmware for the electric vehicle and autonomous driving research and development division

Michigan Mars Rover   **Ann Arbor, MI**
Incoming Embedded Software Lead   *Fall 2024*
- Leading the embedded software team, orchestrating meetings, spearheading recruitment and onboarding, and educating new members

Embedded Software Member   Fall 2022 - *Present*
- Integrated FreeRTOS on STM32 microcontrollers in C to manage concurrent tasks with various sensors, ensuring efficient communication and coordination between the subsystems
- Designed and implemented a C++ ROS nodelet, interfacing the NVIDIA MTTCAN driver on our Jetson and integrating netlink sockets for CAN interface activation
- Leveraged multithreading to concurrently read from ROS topics and communicate with the CAN bus, enhancing real-time data exchange efficiency

University of Michigan CSE Department   **Ann Arbor, MI**
Undergraduate Researcher   Fall 2023 - Spring 2024
- Researching how large language models can be used to generate infrastructure as code configuration files for Terraform from natural language descriptions to submit to NeurIPS 2024
- Leveraging machine learning techniques to achieve a significant reduction in error rates and up to a 20% improvement in code synthesis accuracy during preliminary testing

Projects

R10K-Style Out-of-Order RISC-V Processor in SystemVerilog   Winter 2024
- Spearheaded the design and implementation of a RISC-V MIPS R10K-based out-of-order processor from scratch, employing SystemVerilog for high-level synthesis with a group of 4 other classmates
- Integrating simultaneous multithreading (SMT) with a 2-way superscalar architecture, doubling instruction throughput, and customizing thread scheduling and resource allocation mechanisms to maximize parallelism

Podium Prints Ecommerce Website - *Full-Stack* - podium-prints.com   Fall 2023
- Developed a full-stack ecommerce web app in TypeScript with a Next.js frontend and an Express backend
- Managed API endpoints using tRPC, ensuring a type-safe backend that seamlessly integrated with the frontend
- Used Docker Compose, Terraform, and LocalStack to create an instant development environment with a mock S3 server and local MongoDB database

Skills

- **Languages:** C, C++, {System}Verilog, RISC-V Assembly, Python, Java, {Java/Type}Script, SQL, Bash, HCL
- **Web Technologies:** React, Next.js, Express, Node.js, MongoDB, HTML, CSS
- **Technical/Tools:** Git, AWS (SDK, S3, and EC2), Docker, Terraform, Makefile, CMake

Honors and Activities

- **Honors:** James B. Angell Scholar, University Honors, Perfect ACT Scorer, AP Scholar with Distinction x3
- **Affiliations:** Traders at Michigan, Korean-American Scientists and Engineers Association
- **Hobbies**: 7v7 Intramural Flag Football, 3v3 Intramural Basketball, Poker, Traveling, Hiking