

# Jake Block

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## EDUCATION

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### University of Michigan

*Master of Science in Engineering in Computer Science*  
*Bachelor of Science in Engineering in Computer Science*

Ann Arbor, MI  
*Expected May 2025*  
*Aug. 2021 – May 2024*

- GPA: 3.99/4.00 Major GPA: **4.00**/4.00
- Course Highlights: Advanced Operating Systems, Compiler Construction, Web Systems, Computer Security, Computer Organization, Theory of Computation, Data Structures & Algorithms

## EXPERIENCE

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### Software Engineer Intern

*May 2023 – Aug. 2023*

*Uber*

*San Francisco, CA*

- Resolved critical backend tip processing issue, reducing daily failed tips by 4000 and saving **\$40 million** annually
- Leveraged in-depth log and metric analysis to improve tip validation latency by 150ms and reduce technical debt
- Achieved 100% code coverage through comprehensive unit and integration tests, mitigating production issues
- Actively engaged in daily standup meetings and sprint planning sessions, collaborated with the team to ensure efficient progress, and contributed to key project milestones

### University of Michigan Solar Car Team

*Jan. 2022 – Dec. 2022*

*Strategy Division – 9-time American Solar Challenge Champion*

- Developed, trained, and optimized the team's proprietary Simulator, a software tool that simulates millions of races to aid in race strategy planning
- Contributed extensively to the design, prototyping, and testing of solar car components, actively analyzing data and providing valuable feedback for design enhancements to achieve optimal performance
- Conducted real-time performance analysis to model weather conditions and determine the optimal route for the solar car during races, essential to successful race outcomes

## PROJECTS

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### Distributed Search Engine | *Python, Flask, HTML/CSS*

- Developed a MapReduce pipeline to create a segmented inverted index of web pages, utilizing distributed computing to process large datasets
- Engineered a distributed REST API server architecture with multiple index servers, implementing multi-threading to concurrently handle search queries, resulting in improved response times and scalability

### Multiprocessor Thread Library | *C++*

- Implemented a kernel-level thread library that supports interactive workloads with multiple CPUs
- Supports the creation of threads and synchronization mechanisms, including mutexes and condition variables

### BlueAssignor.com Umpire Assigning Website | *MySQL, PHP, JavaScript, HTML/CSS*

- Developed a fully-featured, user-friendly umpire assigning website that allows invoice creation, permission levels, self-scheduled games, email reminders, and much more, resulting in a streamlined and efficient scheduling process
- Hacked into previous site after receiving permission and offered to build a new one, employing advanced security principles to ensure the integrity and privacy of user data for over 250 daily users

## LEADERSHIP EXPERIENCE

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### Eagle Scout, Boy Scouts of America

*Mar. 2009 – Apr. 2021*

- Led a 100+ person troop as the elected Senior Patrol Leader, overseeing and managing all aspects of the troop

### Baseball and Softball Umpire

*Mar. 2016 – Present*

- Officiate college-level games each summer, collaborating with managers and players to promote smooth, fair games

### 3D Printing and Design Business

*Apr. 2017 – Aug. 2021*

- Founded 3D printing and consulting company, generating yearly profits of over **\$10,000** at a **90%** margin

## TECHNICAL SKILLS

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**Languages:** C/C++, Go, Python, OCaml, Dart, JavaScript, HTML/CSS, SQL, PHP

**Technologies:** Flask, React, Grafana, Flutter, MySQL, NoSQL, Docker, Git, VS Code, CI/CD