

Amber Campbell

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EDUCATION

University of Michigan-Ann Arbor <i>B.S. Computer Science, Minor in History of Health and Medicine</i>	Ann Arbor, MI <i>May 2025</i>
<ul style="list-style-type: none">3.95/4.0 GPARelevant Coursework: Advanced Operating Systems, Web Systems, Data Structures and Algorithms, Practical Data Science, Applied Biostatistics, Introduction to Computer Architecture, Agent-Based ModelingExtracurriculars: Sexual Assault Prevention and Awareness Center Volunteer (Art Show Chair, 2022-24), Girls in EECS, Alpha Delta Pi Sorority (Director of Inclusion, 2022), Public Health Association	
University of College London <i>Exchange Semester in History and Philosophy of Science</i>	London, England <i>Jan. 2024 – May 2024</i>

SKILLS

Programming Languages:	C++, PHP, Python, JavaScript, HTML/CSS, SQL, R
Frameworks and Libraries:	Laravel, Flask, Django, React, Redux, RESTful APIs, Pandas, CPLEX, Boost
Databases:	PostgreSQL, MySQL, SQLite
Tools:	Docker, Postman, WSL/Ubuntu, Git, JIRA, GDB, Visual Studio, VSCode, AWS (EC2)

WORK EXPERIENCE

Center For Healthcare Engineering and Patient Safety <i>Software Engineering Intern</i>	University of Michigan — Ann Arbor, MI <i>Aug. 2023 – Jan. 2024, Aug. 2024 – Current</i>
<ul style="list-style-type: none">Developed modular Python libraries incorporating design patterns to bootstrap simulation optimization projects for healthcare operations, enabling seamless metric generation and data handlingDesigned algorithms using CPLEX to generate optimized shift schedules for 20+ trauma physicians, reducing scheduling inefficiencies while incorporating employee constraints	
DOCSI Health <i>Software Engineering Intern</i>	Minneapolis, MN <i>June 2024 – Aug. 2024</i>
<ul style="list-style-type: none">Engineered features for a responsive dashboard with React for a surgical waste elimination platform, facilitating engagement from 50+ physicians while streamlining real-time insights into supply usage and identifying key cost-saving opportunities.Built and deployed scalable back-end services with Laravel and PostgreSQL, creating RESTful APIs to optimize front-end and database interactions	
Menlo Innovations <i>Software Engineering Intern</i>	Ann Arbor, MI <i>June 2023 – Aug. 2023</i>
<ul style="list-style-type: none">Designed a web application with Django and PostgreSQL to evaluate blood-thinner prescriptions, ensuring compliance with HIPAA standards and seamless integration with EHR systems via FHIR protocolsBuilt an asynchronous Alert Engine to dynamically process and flag critical data, optimizing its deployment for Epic Hyperspace and resulting in interventions in 79% of flagged cases	

PROJECTS

Michigan Plan For Appropriate Tailored Healthcare (MiPATH) <i>Computational Research Assistant</i>	Michigan Medicine — Ann Arbor, MI <i>June 2023 – Aug. 2023</i>
<ul style="list-style-type: none">Developed advanced simulation capabilities in C++ to analyze real-world clinical data, enabling improved prenatal appointment scheduling processesAuthored abstract on prenatal care utilization published in <i>American Journal of Obstetrics and Gynecology</i>	
Networked File Server <i>Advanced Operating Systems</i>	University of Michigan — Ann Arbor, MI <i>Fall 2024</i>
<ul style="list-style-type: none">Designed and implemented a multi-threaded networked file server with a hierarchical file system using C++Enhanced concurrency through upgradable reader/writer locks and ensured file system integrity with secure disk I/O handling	