

## EDUCATION

<b>University of Michigan – Ann Arbor</b> <i>Bachelors of Science in Computer Science and Economics Honors</i>	<b>GPA: 3.80 / 4.00</b> <i>May 2026</i>
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## SKILLS

- Programming & Web:** C++, Python, JavaScript, SQL, React, Flask, HTML/CSS, Git  
**Systems & Backend:** Distributed Systems, MapReduce, REST APIs, AWS EC2  
**Applied ML & Security:** OpenCV, YOLOv8, MediaPipe; Wireshark, Disk Forensics (Autopsy), Web (SQLi, XSS, CSRF)

## WORK EXPERIENCE

<b>Next Play Games Inc.</b> <i>Software Engineer Intern   AI Team Lead</i>	<b>Remote</b> <i>May 2025 – Aug. 2025</i>
<ul style="list-style-type: none"><li>Designed and deployed a real-time video analytics pipeline integrating computer vision inference, rule-based event logic, and downstream classification for live football games.</li><li>Built modular backend components to ingest multi-angle video feeds, project player and ball positions into a unified field coordinate system, and infer plays such as passes and possession.</li><li>Implemented a second-stage event detection service to classify complex game events (e.g., fumbles, flags), improving system robustness beyond raw model predictions.</li><li>Developed SportLingo, a full-stack interactive training application using MediaPipe pose tracking and real-time feedback loops to support gamified sports learning.</li></ul>	

## PROJECT EXPERIENCE

<b>MapReduce Framework - Distributed Systems</b>	<i>Feb. 2025 – Apr. 2025</i>
<ul style="list-style-type: none"><li>Designed and implemented a distributed MapReduce execution framework with a centralized Manager and multiple Worker processes, enabling parallel execution of map and reduce tasks across large datasets.</li><li>Built socket-based inter-process communication and multi-stage data pipelines (map → group → reduce) for worker registration, task scheduling, and result aggregation, ensuring correctness and coordination under concurrent workloads.</li></ul>	

<b>Scalable Search Engine - Information Retrieval</b>	<i>Apr. 2025 – Apr. 2025</i>
<ul style="list-style-type: none"><li>Built a scalable search engine by constructing a segmented inverted index over large document collections.</li><li>Implemented relevance ranking and query serving by integrating tf-idf and PageRank scoring with RESTful backend APIs that return ranked JSON and power a frontend search interface.</li></ul>	

<b>Stock Market Simulation &amp; Bank Transaction System</b>	<i>Oct. 2024 – Nov. 2024</i>
<ul style="list-style-type: none"><li>Designed a C++ simulator for an electronic stock exchange capable of processing 100,000+ trades across 20 traders and 25 stocks within seconds, incorporating a 'time-traveler' feature to explore optimal trading strategies.</li><li>Constructed a real-time C++ banking simulator to process 10,000+ transactions per session with integrated fraud detection, optimizing data handling through an intuitive interface to manage customer data and transaction history.</li></ul>	

<b>Industry-Sponsored MDP Project - Wade Trim</b> <i>Student Research Engineer   Web Development Team</i>	<b>Ann Arbor, MI</b> <i>Jan. 2026 – Present</i>
<ul style="list-style-type: none"><li>Contributing to an industry-sponsored Digital Twin project modeling urban stormwater infrastructure using GIS-integrated simulation (PCSWMM) and environmental data.</li><li>Designing and building a browser-based web application that links PCSWMM simulation outputs to interactive map and chart visualizations, enabling scenario configuration and user-driven model runs.</li></ul>	

<b>Real-Time Social Media Platform</b>	<i>Jan. 2025 – Mar. 2025</i>
<ul style="list-style-type: none"><li>Designed and built a full-stack web app using React, Flask, and AWS EC2, supporting features like infinite scrolling, real-time updates, and double-click to like; optimized for 100+ concurrent users.</li><li>Implemented a SQL database and REST API for user data management, including robust user authentication and session handling with Flask cookies, employing skills in cloud deployment and full-stack integration.</li></ul>	