

Education

Michigan State University

August 2023 - May 2027

Bachelor of Science, Computer Science

Classes: Computer Organization and Architecture, Algorithms and Data Structures, Algebra

GPA - 3.07, Dean's List (Spring 2024)

Experience

Founder – Grata (backed by Voodoo)

- Built and launched **Grata**, a social accountability app, in partnership with **Voodoo** — the #3 mobile publisher globally — using **React Native**, Firebase, and Expo, delivering the full MVP in under 3 weeks.
- Collaborated directly with **Voodoo's product team** to refine UX, retention mechanics, and goal-tracking features designed for Gen Z behavioral patterns.
- Led end-to-end development across feature design, habit logic, and App Store readiness, with private **TestFlight testing underway** and user feedback integrated in real-time.

Front End Web Assistant — College of Engineering, Michigan State University

Aug 2025 - Present

East Lansing, MI

- Developed an internal web tool to archive faculty and departmental website data, enabling fast retrieval and seamless integration for future site updates and migrations.
- Collaborated with the Web Content Administrator to ensure the solution met accessibility (WCAG 2.1), SEO, and CMS compatibility requirements.
- Contributed to content migration and bug-fixing efforts on the college's main website, ensuring smooth transitions during platform and design updates.

Vice President of Tech - Google Developer Groups on Campus

Jul 2024 – Present

East Lansing, Michigan

- Led technology experts to deliver high-quality workshops and resources to enhance GDSC Members' learning experiences.
- Managed multiple teams and workflows to ensure the smooth functioning of the club.

Projects

High-Frequency Data Processing Pipeline

- Engineered a real-time C++ **data pipeline** capable of ingesting and processing **millions of market ticks/second**.
- Applied **custom multithreading**, low-latency I/O, and **memory-efficient data structures** for maximum throughput.
- Simulated order flow, order book updates, and trading signal triggers using **modular architecture**.
- Designed system components to support **back testing**, strategy evaluation, and **microsecond-level event analysis**.
- Inspired by Two Sigma's HFT pipeline style; optimized for extensibility and future integration with ML signals.

MarketPulse

- Developed an AI-powered stock analysis platform using **Next.js**, **Supabase**, **Clerk**, and **Gemini API** to provide insights across technical, fundamental, and sentiment dimensions
- Implemented core indicators like **SMA**, **RSI**, **volume trends**, and parsed **SEC filings** and financial data from external APIs
- Designed modular components and interactive visualizations for multi-angle equity evaluation and comparison

Autosense

- Simulated Tesla-style **EV powertrain** using custom Python engine to model **real-time telemetry** (motor temp, battery SOC/temp, speed) and active cooling logic.
- Modeled **thermal buffer tracking**, fan + coolant cooling system, and fault-triggered shutdowns with **no external libraries** — **raw systems logic**.
- Programmed **drive cycles using (duration, mode)** tuples to emulate **realistic urban + highway** driving with smooth cooling and thermal recovery phases.

Skills

- Languages & Tools:** Python, SQL, JavaScript, C/C++, Swift
- Data & Analytics:** Excel (Pivot Tables, VLOOKUP), Power BI, Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow
- Business & Modeling:** Financial Modeling, Forecasting, Regression Analysis, Flask, React, MATLAB