

Joshua Hsueh

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Education

University of Michigan, Ann Arbor (4.0 GPA)

B.S.E. Computer Science, Statistics Minor

Senior

Expected: May, 2025

Thomas Jefferson High School for Science & Technology: (4.0 GPA)

Top 3 National High School

Skills & Awards

- **Programming Languages:** C/C++, Python, JavaScript, Java, SQL, HTML, CSS, TypeScript, Go, Julia
- **Tools & Frameworks:** NodeJS, NextJS, ReactJS, VueJS, Spring Boot, MongoDB, PostgreSQL, Firebase, GraphQL, Linux, Git, AWS, Google Cloud, Redis, Docker, Android Studio
- **Machine Learning:** Numpy, Keras, Pandas, PyTorch, OpenCV, Neural Networks, K-means, GPT, NLP
- **Awards:** 1st MHacks 2023 Hardware Hack, 6th/6,000 CyberPatriot 2022, 2nd Congressional App Challenge 2021

Work Experience

Datadog - Incoming Software Engineering Intern

May 2025–August 2025

Fannie Mae – Software Engineering Intern

June 2024–August 2024

- Built a multi-tier GraphQL microservices integrator for the liquidity and financing of 3 million homes annually
- Provided capital markets pricing analyzer to Wall Street firms with highly scalable, efficient, distributed architecture
- Trained Random Forest, XGBoost, and autoencoders for automatic anomaly detection in service expenses

World Wide Technology – Software Engineering Intern

May 2023–August 2023

- Utilized RabbitMQ message bus and GraphQL to improve backend master data transaction efficiency by 50%
- Automated CI/CD pipeline tracker and NodeJS notification system on telecom software solutions in 6,000 businesses
- Created MongoDB and VueJS data analysis tool to provide 1,000 cybersecurity experts feedback on performance

Yext – Software Engineering Intern

June 2021–August 2021

- Deployed dynamic digital marketing sites with SEO, Google Analytics, CDNs, and page caching for 4 billion visitors to corporations such as [Wells Fargo](#), [Dunkin'](#), and [The UPS Store](#)
- Revamped AWS Lambdas services with GoLang to trigger notifications on faulty renderings and store inputs
- Developed a NextJS platform to generate QR codes for clients such as Berkshire Hathaway, saving 40 hours per use

Projects

Cybernetics Research – Professor Lin Ma

2024–Present

- Applied reinforcement learning and Bayesian optimization to optimally configure databases for large workloads
- Explored optimization tricks: dimension projection, bucketization, and biased sampling for faster convergence times
- Implemented classifier based on Google Kepler dataset to better rank plan selections for parameterized queries

Michigan Mars Rover – 4th in 2023 University Rover Challenge

2022–Present

- Assembled debugging interface with ROS, Django, and VueJS to display concurrent robot inputs and actions
- Refactored Python teleoperation program with MoveIt kinematics and motion planning for smooth joint movement

[ArbX Sports Betting Software](#)

2022–2023

- Web-scraped 40,000+ markets across 10+ sportsbook data streams in 100ms with Redis caching, Puppeteer, NestJS
- Relayed arbitrages, EV parlays, and line/odds comparisons with Next/ReactJS, Supabase (Firebase alternative), JWT

[Rainman Blackjack Python Artificial Intelligence](#)

2021–2022

- Optimized blackjack decisions with genetic algorithms and computer vision for live object detection and 57% profit
- Generated 50,000+ images with C++ and OpenCV image augmentation to train YOLOv4 with 97% accuracy

EscapeVape Addiction Recovery App

2020–2022

- Leveraged NLP, machine learning, MongoDB, and REST APIs to promote addiction recovery for 2,000+ users
- Identified addiction trends and personality traits through PyTorch, clustering, Google BERT, and Google Cloud tools