

Kathir Maarikarthikeyan

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EDUCATION

The Ohio State University

Expected Graduation: December 2025

Bachelor of Science in Computer Science Engineering, Specialization in AI/ML

GPA: 3.95

Relevant Coursework: Object-Oriented Programming, Data Structures and Algorithms, Operating Systems, Database Systems, Web Applications, Neural Networks, Computer Vision, Machine Learning

EXPERIENCE

Google

May 2025 - August 2025

Software Engineering Intern - Google Cloud Platform NGFW

Durham, NC

- Reduced NGFW health monitoring latency from **5 minutes to 3–4 seconds** by building a Go-based serverless Cloud Run job to retrieve NGFW diagnostics, perform health checks, and report standardized metrics
- Extended Terraform pipelines to deploy and continuously run the Cloud Run job across all NGFW customer endpoints, enabling **real-time global health monitoring**
- Migrated NGFW monitoring from VMs to Cloud Run, reducing **operational overhead by 40%** through automated scaling and simplified deployments

Toyota Research and Development

May 2024 - August 2024

Software Engineering Intern

Ann Arbor, MI

- Developed an AI stereo-vision prototype for a next-gen pickup truck safety feature using PyTorch and YOLOv8, achieving **92% accuracy** in off-road obstacle detection
- Built a Python script to process real-time traffic data via REST API, cutting runtime from **3 minutes to 2 seconds** and enabling faster integration of traffic insights into ADAS prototypes
- Designed Figma UI/UX for a trailer ADAS feature, gaining approval for development in next-gen pickup models

Toyota Motor North America

August 2023 - December 2023

Production Engineering Intern

Georgetown, KY

- Streamlined vehicle production planning by developing a Power BI dashboard to analyze vehicle investment data, adopted by **50+ engineers** across the production planning team
- Developed a Python tool to automate vehicle investment calculations, saving **\$22K in labor costs quarterly**
- Automated vehicle production update emails in Python, delivering real-time expenditure data to **18 teammates**

Central Insurance

May 2023 – August 2023

Software Engineering Intern

Dublin, OH

- Implemented automated unit and integration testing for Central Insurance's customer policy portal, supporting **over 1 million insurance quotes**
- Built tests for the portal's REST API using Postman and JavaScript, increasing **API test coverage by 55%**
- Created Angular UI unit tests in Jasmine with spies to mock dependencies, raising **UI test coverage by 26%**

PROJECTS

ZoomGage (1st Place at OSU HackAI) | *Python, PyTorch, OpenCV, React, Firebase*

- Engineered a real-time student engagement detection system for virtual classrooms with **97.2% accuracy**
- Utilized PyTorch and OpenCV to detect eye-contact, drowsiness, and slouching from the student's webcam
- Created a React dashboard to display real-time class engagement metrics, with Firebase handling model outputs

Hyperpedia + Hypertro | *React, TypeScript, PostgreSQL, Google Gemini*

- Built a gym encyclopedia website with an interactive human body model featuring **20+ muscles and all major muscle groups**, offering detailed descriptions, exercises, and form videos
- Integrated Hypertro, a chatbot powered by Google Gemini API, providing tailored fitness guidance for users

TECHNICAL SKILLS

Languages: Python, Go, Java, C, C++, JavaScript, TypeScript, SQL, Ruby, x86-64 Assembly

Frameworks/Libraries: PyTorch, Scikit-learn, Pandas, NumPy, Matplotlib, React, Node.js, Flask, Rails

Tools: GCP, AWS, Azure, Kubernetes, Docker, Firebase, PostgreSQL, MongoDB, Power BI, Postman, Linux, Figma