

Vikram Anantha

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EDUCATION

University of Michigan — Comp. Sci. Major, *Graduating May 2027*

Aug 2024 - Present

- 1931E Scholar • 3.96 GPA • Comp Org, Data Struct & Algs, Human-Robot Interaction

TECHNICAL SKILLS

- Skilled in Python, C++, Java, JS, HTML, CSS, CAPL, React, Amazon Web Services, Robotics Operating System
- Experience with You Only Look Once (YOLOv8), Gaussian Splat, Segment Anything Model (SAM-2), LLMs, Vector CANalyzer

RESEARCH & WORK EXPERIENCE

Stellantis — *ADAS Engineering Intern*

May 2025 - Present

- Developed CAPL script to measure fault fidelity of camera components, by manipulating CAN signals to set DTCs
- Ran experiment to measure auto-drive by controlling CAN signals of acceleration using Vector CANoe

Capoom — *Software Engineering Intern, via Perot Jain Tech Lab at Mcity Program*

Jan 2025 - Present

- Developing method for automatic 3D Gaussian Splat model creation of UofM's Mcity
- Utilized hierarchical methods to visualize Gaussian Splat map

UMich, Robotic & Optimization for Analysis of Human Motion — *Research Assistant*

Aug 2024 - Present

- Creating a real-time 3D object segmented model of a changing environment for robotic arm movement
- Used 3D Gaussian Splat, Meta's SAM-2, and OpenAI's CLIP to create this environment, connected to ROS Service

Constant Therapy Health — *Software Engineer Intern*

June 2021 - Aug 2024

- Created Automatic Speech Recognition model for stroke aphasia patients & web-based hierarchical task visualizer
- Improved false negative rate by 4x compared to Google's Speech Recognition Engine

MIT, Auto ID Lab — *Research Intern*

June 2023 - Sept 2023

- Worked on 2FA system to prevent hacking for autonomous vehicles at road intersections
- Used YOLOv8 and Python to recognize vehicles and headlight patterns

Columbia University, Center for Smart Street Scapes — *Research Intern*

May 2023 - Feb 2024

- Worked on NSF Project, developed app to warn pedestrians at road intersections of oncoming vehicles
- Reduced latency to <2s for human reaction time to prevent accidents using React Native and MQTT messaging

HELM Learning — *Co-founder, Teacher, Developer*

Apr 2020 - May 2024

- Created free online peer-to-peer worldwide learning platform with over 4.2K students, 90+ classes
- Created services with Python, JS, SQL, Recommendation ML Algorithm, hosted platform on AWS

SELECTED HONORS & AWARDS

Diamond Challenge • Regionals - 1st Place Prize Award

Mar 2023

Kurt Giessler Foundation • Prize for Achievement for HELM Learning (\$750 grant money)

Oct 2022

Mass. Science & Engineering Fair (MSEF) • 2nd Place Moderna & Outstanding AI Project Winner

Mar & May 2022

American Invitational Mathematics Exam (AIME) • 2 Time Qualifier

Mar 2021 & Feb 2022

USA Coding Olympiad (USACO) • Silver Division

Dec 2019

Invention Convention Worldwide (ICW) • UTC Best in Show: Most Innovative Project

May 2019

PUBLICATIONS

Y. Fu, M. K. Turkcan, V. Anantha, Z. Kostic, G. Zussman and X. Di, "Digital Twin for Pedestrian Safety Warning at a Single Urban Traffic Intersection," 2024 IEEE Intelligent Vehicles Symposium (IV), Jeju Island, Korea, Republic of, 2024, pp. 2640-2645, [doi: 10.1109/IV55156.2024.10588544](https://doi.org/10.1109/IV55156.2024.10588544)

V. Anantha, Peer to Peer Learning Platform Optimized With Machine Learning, [arXiv:2209.03489](https://arxiv.org/abs/2209.03489), 2022