

Rahul Medicharla

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EDUCATION

The Ohio State University

Bachelor of Science in Computer Science Engineering, Minor in Business

Graduating with an **Undergraduate Research Distinction**

Columbus, OH

August 2021 – May 2025

GPA: 3.7/4.0

EXPERIENCE

Software Engineering Intern

Capital One

June 2024 – Present

Mclean, Virginia

- Developing a Kubernetes-native operator to assist with risk mitigation in Amazon EKS clusters by scanning pods for vulnerabilities found in a CVE Database and notifying them to internal stakeholders.
- Optimizing operator performance by at least **10%** through a Redis Cache and AWS Lambda functions.
- Pursuing a Certified Kubernetes Application Developer (**CKAD**) certification.

Undergraduate Student Researcher

The Ohio State University

January 2024 – Present

Columbus, OH

- Engineered a pose tracking algorithm to analyze human joint movement utilizing YOLOv8, OpenCV, Google MediaPipe, and regression-based interpolation techniques.
- Optimized computation by employing image scale pyramids, resulting in a **50%** reduction in run-time.
- Drove the data-engineering process and currently training an autoencoder machine-learning model to flag abnormal movements with at least **90%** accuracy.

Software Engineering Intern

WillowTree

May 2023 – August 2023

Columbus, OH

- Led the creation of an end-to-end MVP for a 24/7 customer support chatbot using the React framework, collaborating with a cross-functional team of developers and designers, and following Scrum methodologies.
- Implemented a semantic search and response feature to enhance the customer experience by cutting down the response times from the customer service team by around **30%** utilizing large language models, vector embeddings, and an Azure SQL database.
- Deployed a custom back-end web API leveraging Azure Cloud Services, .NET framework, and C#.

AFFILIATIONS

Technology Lead

Google Developer Student Club, The Ohio State University

November 2023 – Present

Columbus, OH

- Direct educational workshops for **100+ members** about Google technologies and their implementations in practice.
- Hosted a four-session progressive workshop with on average **25+ members** to build a portfolio website using React and deploying it onto Google Cloud Platform.

Co-founder and President

The Cooking Club, The Ohio State University

August 2022 – Present

Columbus, OH

- Drove the organizational strategy, resulting in **400+** member recruitment in the first year and currently managing all operational aspects including funding, events, and member coordination.
- Organize and lead bi-weekly cooking workshops with an average of **30+** members to foster healthy cooking habits and explore cultures through cuisine.

PROJECTS

Event-driven Kubernetes | Go, Amazon EKS, AWS Lambda, AWS Event-bridge, Docker

May 2024 – Present

- Designing an Amazon EKS abstraction to enable Docker-containerized services to follow an event-driven workflow when running on clusters by leveraging AWS Lambda and AWS Event-bridge.
- Managing the lifetime of services and resources on EKS clusters to improve cost efficiency by at least **5%**.

Evolate | Python, Pytorch, Scipy, Pandas, Numpy

June 2023 – July 2023

- Engineered a data structure that autonomously switches between different data structures and search algorithms based on user behavioral patterns, resulting in a **10%** performance boost in computation speed.
- Trained a custom PyTorch Neural Network to determine the optimal implementations based on behavioral metrics such as insertion and deletion frequencies, search predictions, and search randomness.

Mood.ai | Python, GCP, Docker, YOLOv8, React, Flask

March 2023 – May 2023

- Developed and hosted a custom Docker contained Python application onto GCP's Cloud Run that enabled **25+ users** to convert videos to abstracted art through the use of audio and video machine learning models and generative AI.
- Implemented numerous inference models such as YOLOv8 object detection and speech recognition to parse data about that media and utilized large language and stable diffusion models to reconstruct the data as abstracted art.

TECHNICAL SKILLS

Languages: JavaScript, Python, Go, Java, SQL, C#, C

Frameworks: Kubernetes, Docker, React, React Native, .NET, Node.js, Flask, Ruby on Rails

Developer Tools: Git, Amazon Web Services, Azure Cloud Services, Google Cloud Platform

Libraries: Pytorch, YOLOv8, Google MediaPipe, Opencv, Pandas, Numpy