Rahul Medicharla

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Education

The Ohio State University — Columbus, OH
Bachelor of Science in Computer Science Engineering, Minor in Business — *August 2021 – May 2025*
Graduating with an Honors Undergraduate Research Distinction in Civil Engineering — GPA: 3.7/4.0

Technical Skills

Certifications: Certified Kubernetes Application Developer (CKAD)
Languages: JavaScript, Go, Python, Java, SQL, C#, C
Frameworks: React, Pytorch, .NET, Node.js, Flask, MongoDB, Ruby on Rails
Developer Tools: Kubernetes, Docker, Amazon Web Services, Azure Cloud Services, Google Cloud Platform, Git

Experience

Undergraduate Student Researcher — January 2024 – Present
PCVLab, The Ohio State University — *Columbus, OH*
- Engineered a pose detection algorithm to track human joint movement with 95% accuracy utilizing **Yolov8**, **OpenCV**, **Google Mediapipe**, and regression-based interpolation techniques.
- Drove the data-engineering process and currently training an emotion classification model on the latent embeddings of facial keypoint data with **Pytorch Lightning** and **MobileNetV2**.
- Optimized computation by implementing distributed training protocols, resulting in a 43% reduction in run-time.

Software Engineering Intern — June 2024 – August 2024
Capital One — *Mclean, VA*
- Developed a **Kubernetes**-native controller in **Go** to mitigate cloud risk for 150+ **AWS EKS** clusters by surfacing and annotating **Docker** image vulnerabilities onto pods, accelerating the vulnerability remediation timeline by 50%.
- Designed a novel metric for an enterprise **New Relic** dashboard that identifies the vulnerability footprint of 22,500+ pods by generating vulnerability count histograms bucketed across 5 risk labels and exposing it via a **Prometheus** client.
- Optimized operator performance by at least 15% utilizing **AWS Lambda** for session management and templatized operator deployment onto a CI/CD pipeline using **Jenkins** and **Helm**.

Software Engineering Intern — May 2023 – August 2023
WillowTree — *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, and following **Agile** methodologies.
- Implemented a semantic search and response feature to enhance the customer experience by cutting down customer service response times by around 30% utilizing large language models, vector embeddings, and an **Azure MySQL** database.
- Deployed a custom back-end web API leveraging **Azure Cloud Services**, **.NET**, and **C#**.

Technology Lead — November 2023 – Present
Google Developer Student Club — *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**.

President and Co-founder — August 2022 – Present
The Cooking Club — *Columbus, OH*
- Drove the organizational strategy, resulting in 600+ 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 to cultivate healthy habits and explore cultures through cuisine.

Projects

Kubefs | *Go, Kubernetes, Docker, Helm* — May 2024 – Present
- Published a CLI tool to **Homebrew** that automates fullstack application development, testing, & deployment onto **K8** clusters by utilizing **Go**, **Cobra**, **Docker**, and **Helm**, resulting in a 23% reduction in time-to-deploy.
- Integrated support for common frameworks including **Cassandra**, **Redis**, and **NextJS** to reduce operational overhead.

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 11% 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.

Audio Studio | *Python, Google Cloud Platform* — October 2022
- Achieved 5^{th}/1000 participants in Ohio State's annual Hackathon by delivering a speech-to-code editor in 24 hours.
- Collaborated in a group of four to create a program capable of mapping conversational voice commands to python code in real-time, allowing for greater accessibility in code.