

Himavanth Karpurapu

San Jose, CA, USA | +1 (408) 210 9874 | himavanth.karpurapu@sjsu.edu | www.linkedin.com/in/himavanth-karpurapu-6907561b3/
Github: <https://github.com/himavanthkar> | Portfolio Website: <https://himavanthkarpurapu.com> |

Professional Experience

WINIT TECHNOLOGY PRIVATE SOLUTIONS LIMITED | *Software Engineer Intern* | Apr 2023 – Aug 2024

- **Situation:** The company needed to migrate its infrastructure to the cloud with minimal downtime and manual intervention.
- **Task:** Automate cloud infrastructure provisioning and optimize resource allocation.
- **Action:** Used **Terraform** to automate **Azure infrastructure provisioning**, managed services like **Azure VMs, Azure SQL, Blob Storage, and Azure Functions**, and implemented **auto-scaling** to optimize costs. Designed **CI/CD pipelines** using **Jenkins and GitHub Actions** and containerized applications with **Docker** for deployment on **Kubernetes**.
- **Result:** Reduced cloud migration time by 25%, increased automation by 20%, and cut computational costs by 30%.

UDAAN AI AND ML RESEARCH LAB, KMIT | *Undergraduate Research Assistant* | Mar 2020 – Aug 2022

- **Situation:** Doctors needed a faster and more accurate way to detect cancer from CT scans.
 - **Task:** Develop a full-stack web application for medical imaging analysis.
 - **Action:** Built the frontend using **React.js**, backend with **Flask**, and deployed CNN models using **TensorFlow Serving** and **Docker**. Created data preprocessing pipelines with **Python and OpenCV** and integrated real-time inference capabilities.
 - **Result:** Achieved 97% accuracy in candetection, reduced diagnosis time by 40%, and improved training efficiency by 15%.
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Project Experience

Peer Support Website (Real-Time Distributed System) | Jan 2024 – Present

- **Situation:** Users needed a platform to connect and communicate in real-time.
- **Task:** Build a real-time peer support platform using **WebSockets** and **SignalR**.
- **Action:** Deployed the application on **Azure App Service**, used **Azure SQL Database** for storage, and implemented **Redis** for distributed caching. Designed a **Power BI dashboard** to visualize user engagement metrics.
- **Result:** Improved system performance by 25% and enabled real-time communication for over 1,000 users.

Distributed Task Scheduler with Kubernetes and C# | Feb 2024 – Aug 2024

- **Situation:** Needed a scalable solution to manage and distribute tasks across multiple nodes.
- **Task:** Build a distributed task scheduler using **C# and .NET Core**.
- **Action:** Deployed the scheduler on **Azure Kubernetes Service (AKS)**, used **Azure Service Bus** for task distribution, and implemented **Prometheus/Grafana** for monitoring. Designed a REST API for task submission and status checking.
- **Result:** Achieved high availability and scalability, with a 30% improvement in task execution efficiency.

AI Movie Recommendation System with Real-Time Analytics | Aug 2024 – Dec 2024

- **Situation:** Needed a scalable recommendation system with real-time analytics for user engagement.
 - **Task:** Develop a recommendation system using collaborative filtering and deep learning models.
 - **Action:** Built scalable data pipelines with **Kafka** for streaming and **Spark** for batch processing. Deployed the system using **Kubernetes** and designed an admin dashboard to visualize user engagement metrics.
 - **Result:** Improved recommendation accuracy by 20% and enabled real-time analytics for over 10,000 users.
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Recognition

- **Stanford TreeHacks Winner 2024** – Awarded for developing an AI-powered privacy policy summarizer.
- **Top 4 Finalist** – Mozilla Hackathon 2024 for creating a real-time collaborative platform using distributed systems.
- **Top 20% LeetCode Community** – Demonstrated strong proficiency in data structures and algorithms.
- **Research Associate for Nada Attar:** Leading a team of 3 researchers to improve computer vision models- at SJSU Jan 25-Present

Education

San Jose State University, San Jose, CA, USA. Master of Science in Computer Science | Aug 2024 – May 2026 | **GPA-3.8**
Relevant Coursework: Advanced Machine Learning, Distributed Systems, Cloud Computing

Jawaharlal Nehru Technological University, Hyd, India. Bachelor of Technology in CSE | Aug 2019 – Aug 2023 | **GPA-3.7**
Technical Skills : Python, JavaScript, Java, C++, Go, C#, .NET, React.js, Flask, FastAPI, Azure, AWS, CNNs, GANs, Hugging Face Transformers, PyTorch, TensorFlow, Terraform, Docker, Kubernetes, Jenkins, GitHub Actions, Azure DevOps, Kafka, Spark, Power BI, Tableau, Prometheus, Grafana, RDS, MongoDB, Firebase, Azure SQL, Redis, Visual Studio, Microsoft Teams, GitLab, GitHub, OpenCV.