

AASHISH MUKUND

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EDUCATION

University of Colorado Boulder (Matriculating)

Boulder, CO

Master of Science in Computer Science (GPA- 3.97/4)

Aug. 2023 – May 2025

TA: CSCI 2400 (Fall 2023 and Spring 2025), CSCI 2700 (Spring 2024 and Fall 2024) RA: Earth Lab

R.V. College of Engineering (CET Rank: 21/175K, Karnataka State)

Bengaluru, India

Bachelors in Computer Science and Engineering (GPA- 8.91/10)

Aug. 2016 – May 2020

EXPERIENCE

Image and Video Computing Group

CU Boulder, CO

Research Group Member (Advisor - Dr. Danna Gurari)

Jan. 2024-Dec. 2024

- Led novel efforts to identify how multimodal LLMs reason during incorrect visual evidence on tasks like VQA.
- Benchmarked proprietary models(e.g. GPT-4o) and non-proprietary models on the IoU-PQ metric, and identified performance gaps in handling question ambiguity. **Tech Stack: Python, PyTorch, CURC GPU, HF Spaces**

Earth Lab, CIRES

CU Boulder, CO

Graduate Research Assistant

June 2024-Aug. 2024

- Designed and developed fuel status prediction models (MESMA) for SoCal regions, by leveraging Sentinel-2 satellite data. Curated a custom spectral library from Sentinel-2 pure-pixel data, currently being used by the lab.
- Set up an AWS pipeline for pre-processing the Sentinel-2 data. **Tech Stack: Python, AWS(S3, EC2), QGIS**

Walmart Global Tech

Bengaluru, India

Software Engineer II / Software Engineer III

Aug. 2020-Apr. 2023

- Led the efforts in configuring and solutionizing Splunk forwarder container across a large scale of virtual machines (5000+) in production, aiding in the process of failure point detection through log monitoring.
- Reduced turn around time for Data Extraction team by developing an API with CQRS using .NET framework.
- By implementing proof-of-concept (PoC) tests, optimized container resource usage and improved governance.
- Contributed to migration efforts from cloud to on-site virtual machines, achieving \$1.25M in cloud cost savings.
- Tech Stack: Linux, C#, Azure Cloud (IoT Edge), Docker, Kubernetes, .NET, Prometheus, Grafana**

Indian Institute of Science (IISc RBCCPS)

Bengaluru, India

Research Intern (Advisor - Dr. Raghu Krishnapuram)

Dec. 2019-June 2020

- Generated RGB-D dataset by simulating turtlebot3 using ROS and Gazebo for 3D reconstruction.
- Leveraged the dataset for 3D reconstruction using Microsoft Kinect Fusion, 3D segmentation with PointNet++, and scene completion using ScanComplete. **Tech Stack: Python, PyTorch, ROS 1.0, Gazebo, MeshLab**

PUBLICATIONS

Keerthan, **Mukund A.**, Nagaraj, Prakash, "U-shaped Transformers for 3D Lung Cancer Segmentation", International Conference on Knowledge Engineering and Communication Systems 2022, **IEEE** [\[link\]](#)

Keerthan, **Mukund A.**, Nagaraj, Prakash, "LeafViT: Vision Transformers based Leaf Disease Detection", International Conference on Computational Intelligence and Computer Vision 2022, **Springer** [\[link\]](#)

PROJECTS (ALL PROJECTS AT [AASHISH75.GITHUB.IO](https://aashish75.github.io))

Attention Visualization as Evidence For VQA (Independent Study)

Jul. 2024-Dec. 2024

- Implemented an end-to-end Grad-CAM based attention visualization pipeline in Visual Question Answering.
- Deployed backend on Hugging Face Spaces (Gradio app) and hosted frontend (HTML/CSS/JS) on GitHub Pages.

LoRA in Medical VQA on Pathology Images (NLP Final Project)

Feb. 2024-Apr. 2024

- Optimized BLIP for Visual Question Answering (VQA) while reducing computational overhead using LoRA.
- Model demonstrated 33.55% increase in accuracy on yes/no questions compared to the non-finetuned version.

TECHNICAL SKILLS

Languages: Python, C++, MATLAB, R, SQL, Java **AI/ML Frameworks:** PyTorch, TensorFlow, Keras, OpenCV
Web & Backend: Flask, Spring Boot, REST API **Cloud & DevOps:** Docker, Kubernetes, AWS, GCP, Ansible
Developer and Visualization Tools: Git, Visual Studio, Postman, Jupyter Notebook, PostgreSQL, Tableau