Sairam VCR

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Research Interests

Computer Vision, Deep Learning, Aerial Vision (Tiny & Oriented Object Detection), Domain Generalization & Adaptation, Efficient & Deployable AI.

Education

Indian Institute of Technology (IIT), Hyderabad — 8.52 / 10
PhD in Artificial Intelligence — *Aug 2020 – Present*
Advisor: Dr. Vineeth N Balasubramanian
Collaboration: DRDO – Young Scientist Laboratory

Muhammad Bin Zayed University of AI (MBZUAI), Abu Dhabi
Visiting Student — *Jan 2025 – Present*
Host: Dr. Muhammad Haris Khan

Indian Institute of Information Technology (IIIT), Tiruchirappalli — 9.17 / 10
B.Tech. in Computer Science and Engineering — *2016*
Gold Medal for Academic Excellence

Publications

2025:

4. Rebbapragada V C Sairam, Rishabh Lalla, Aveen Dayal, Tejal Kulkarni, Anuj Lalla, Vineeth N Balasubramanian, Muhammad Haris Khan. *Source-Free Domain-Adaptive Object Detection Done Right: A Noise-Robust Approach*, under submission at **NeurIPS 2025**.

2024:

3. Rebbapragada V C Sairam, Pranoy Panda, Vineeth N Balasubramanian. *C2FDrone: Coarse-to-Fine Drone-to-Drone Detection using Vision Transformer Networks*, **ICRA 2024** [paper].

2023:

2. Rebbapragada V C Sairam, Monish Keswani, Uttaran Sinha, Nishit Shah, Vineeth N Balasubramanian. *ARUBA: An Architecture-Agnostic Balanced Loss for Aerial Object Detection*, **WACV 2023** [paper].

1. Charchit Sharma, Ayan Kumar Pahari, Pranoy Panda, Rebbapragada V C Sairam, Deepak Vijaykeerthy, Vineeth N Balasubramanian. *Do Models see Corruption as we see? An Item Response Theory based study in Computer Vision*, **ICLR 2023 Workshop on Practical ML for Developing Countries**.

Awards and Achievements

- **Research Excellence Award**, IIT Hyderabad (2024) – For outstanding research publications.
- **Oral Presentation**, ICRA 2024 – Presented at a top-tier robotics conference.
- **Invited Presentations** – IndoML 2024, Amazon Research Days 2024, Symposium on Data for Public Good 2024.
- **Gold Medalist**, IIIT Tiruchirappalli (2016) – Academic excellence in Computer Science and Engineering.

Services

- **Reviewer**: ACM IKDD CODS 2025, ICVGIP 2025, IJCV 2025, IET Computer Vision 2025, IEEE TAI 2025, Pattern Recognition 2024 & 2025, ACM Computing Surveys.
- **Sub-reviewer**: IEEE TIP 2024, ICRA 2024, WACV 2024, NeurIPS 2023, ICCV 2023, IJCAI 2023.
- **Student Volunteer**: IIIT Hyderabad Summer School on AI 2024 (hands-on session), ACML 2022.

Research Forums Attended

- **ICRA 2024 (Yokohama, Japan)** – Presented research on drone-to-drone detection.
- **Amazon Research Days 2024** – Invited participant, showcased ICRA 2024 work.
- **Symposium on Data for Public Good 2024 (IISc Bengaluru)** – Selected for the Young Researchers' Forum on Data and AI for Public Good.
- **Google Research Week 2023 & 2024** – Engaged with cutting-edge research discussions.
- **IIIT Hyderabad Summer School on AI 2024** – Participated and contributed as a student volunteer.
- **Asian Conference on Machine Learning (ACML) 2022** – Attended as a student volunteer.

Teaching Assistant Experience

- **Foundations of Machine Learning** – Fall 2021, Fall 2024
- **Deep Learning** – Spring 2023, Spring 2024
- **Sequence Models** – Spring 2023
- **Reinforcement Learning** – Summer 2022
- **Introduction to Modern AI** – Fall 2020

Skills

- **Programming**: Python, C/C++, Bash
- **Deep Learning Frameworks**: PyTorch, TensorFlow, HuggingFace Transformers, Detectron2, mmDetection
- **Libraries & Tools**: NumPy, SciPy, scikit-learn, OpenCV, Pandas, Matplotlib
- **High-Performance Computing**: Large-scale training on NVIDIA GPU clusters (V100, A100, DGX systems), CUDA, Slurm workload manager
- **Other**: Docker, Git, Linux (Ubuntu)

Work Experience

- **Full Stack Developer, Aranya Organics & Generals, Hyderabad** (Mar – May 2019) Designed and deployed a dynamic e-commerce website for a startup manufacturing organic beauty products.
    - Integrated the platform with Flipkart, increasing sales by 52%.
    - Built an interactive, user-friendly web interface to enhance customer engagement.
- **Indian Sign Language Recognition** (Apr – Jun 2020) Developed a deep learning system for real-time Indian Sign Language recognition using Transfer Learning.
    - Implemented CNN-based models with TensorFlow and OpenCV.
    - Designed an interactive web interface enabling real-time detection using a laptop camera.
    - Successfully integrated the model into a fully functional demo system.

Leadership & Extra-Curricular

- **Vice-President, IIIT Tiruchirappalli Student Council** (2019–2020) – Led planning and coordination of academic & extracurricular activities.
- **Secretary, IIIT Tiruchirappalli Student Council** (2018–2019) – Acted as liaison between students and administration.
- **Secretary, Aahladh'19 (Cultural Festival, IIIT-T)** – Organized institute-wide cultural festival, coordinating with faculty and administration.
- **Member**, ACM Chapter at IIT Hyderabad.
- **Sports Achievements**: Gold medal in Carrom singles (Prothymos'19, IIIT-T Sports Fest).

References

- Vineeth N Balasubramanian, Professor in CSE, IIT Hyderabad. E-mail: vineethnb@iith.ac.in
- Muhammad Haris Khan, Assistant Professor in CSE, MBZUAI, Abu Dhabi. E-mail: muhammad.haris@mbzuai.ac.ae