Kondapally Madhavi

+91 78936 55228 | cs21resch15001@iith.ac.in

in LinkedIn | G Google Scholar |

Hyderabad, Telangana State - 502284, India

RESEARCH INTERESTS

- Enhancing Autonomous Vehicle Technology in Transitional Weather Conditions
- Causal Interventional Training for Autonomous Vehicle Technology in Transitional Weather Conditions
- Developing Vision Language Models for Advanced Driver Assistance Systems
- Applying Vision LLMs for Medical AI Applications

ACADEMIC BACKGROUND

- **Indian Institute of Technology Hyderabad (IIT Hyderabad)** *Aug 2021 - Now*
  Doctor of Philosophy (PhD) Hyderabad, India
  - **Department:** Computer Science & Engineering
  - **Thesis:** Scene Perception for Autonomous Vehicle Technology in Transitional Weather Conditions
  - **Supervisor:** Prof. C Krishna Mohan
  - **CGPA:** 9.25/10.00

- **Jawaharlal Nehru Technological University, Hyderabad, India (JNTU Hyderabad)** *Sep 2008 - Dec 2010*
  Master of Technology (MTech) Hyderabad, India
  - **Department:** Computer Science & Engineering
  - **Thesis:** Locating friends and family using GPS
  - **Percentage:** 73 %

- **Kakathiya University, Warangal, India** *June 2002 - Apr 2006*
  Bachelor of Technology (BTech) Warangal, India
  - **Department:** Information Technology
  - **Percentage:** 73 %

PUBLICATIONS C=CONFERENCE, J=JOURNAL, W=WORKSHOP, S=SUBMISSION

[J.1: IEEE T-ITS] **Kondapally Madhavi**, K. Naveen Kumar, C. Krishna Mohan, Towards a Transitional Weather Scene Recognition Approach for Autonomous Vehicles. *IEEE Transactions on Intelligent Transportation Systems*, Vol. 25, Issue 6, pp. 5201-5210, **2024. [IF: 8.5]**

[C.1: IJCNN] **Kondapally Madhavi**, K. Naveen Kumar, C. Krishna Mohan, Object Detection in Transitional Weather Conditions for Autonomous Vehicles. In *International Joint Conference on Neural Networks*, pp. 1-8. IEEE. June, Yokohama, Japan **2024**

[C.2 Springer] RaviKiran Ramaraju, **Kondapally Madhavi**, G. Ravi, Sentimental Analysis on Twitter Data Using Hadoop with Spring Web MVC. *Intelligent System Design. Advances in Intelligent Systems and Computing* (Springer Nature), vol 1171. Springer, Singapore, pp. 265–273, **2020**

[W.1: IEICE] **Kondapally Madhavi**, C Krishna Mohan, Weather Scene Perception for Autonomous Vehicles. In *International Workshop on Computer Vision and Artificial Intelligence*, IEICE proceedings, Japan, pp.61-64

[W.2: ICPRW] **Kondapally Madhavi**, K Naveen Kumar, C Krishna Mohan, **TransWardX: An Explainable Black-box Object Detection Attack for Autonomous Driving in Transitional Weather Conditions**, *International Conference on Pattern Recognition Workshops*, ICPRW proceedings, India, **2024**

[S.1: TIP] **Kondapally Madhavi**, K. Naveen Kumar, C. Krishna Mohan, **CaRS: Leveraging Causal Intervention in Transitional Weather Autonomous Driving Conditions for Efficient Segmentation**. *CVPR 2025*

[S.2: Elsevier PR] **Kondapally Madhavi**, K. Naveen Kumar, Chalavadi Gayathri, **TSANet: Forecasting Traffic Congestion Patterns from Aerial Videos using Graphs and Transformers**. *Pattern Recognition (Elsevier)*

PATENTS

- **Kondapally Madhavi**, K Naveen Kumar, C Krishna Mohan, Sobhan Babu**System and method for generating weather transition data for autonomous vehicle training**", Indian Patent Office, Application no. **202541000718**, Jan, 03, 2025

- **Kondapally Madhavi**, K Naveen Kumar, C Krishna Mohan, Sobhan Babu,"**System And Method For Performing Adaptive Object Detection In An Autonomous Vehicle System**", Indian Patent Office, Application no. **202541001505**, Jan, 07, 2025

TEACHING EXPERIENCE

- **B.V. Raju Institute of Technology, Narsapur (BVRIT Narsapur)** *Feb 2015 - Aug 2021*
  Assistant Professor Hyderabad, India
  ○ **Department:** Information Technology

- **Marri Laxman Reddy Institute of Technology (MLRITM Hyderabad)** *Dec 2011- Oct 2012*
  Assistant Professor Hyderabad, India
  ○ **Department:** Computer Science and Engineering

- **TRR Engineering College (TRREC, Hyderabad)** *Dec 2010 - Dec 2011*
  Assistant Professor Hyderabad, India
  ○ **Department:** Computer Science and Engineering

FUNDED PROJECTS

- **Medicine from the sky** *Sep 2021 - Dec 2021*
  Project title: Design and Development of AI-based real-time light-weight system medical drone delivery
  ○ **Funded by:** Bold and Unique Ideas Leading to Development (BUILD), IITH
  ○ **Amount:** INR 100000 for 4 months
  ○ **Role:** Principal Investigator (PI), Project Lead

TECHNICAL SKILLS

○ Machine learning, deep learning, supervised and unsupervised learning, and computer vision
○ **Programming & Libraries:** Python, TensorFlow, PyTorch, and OpenCV

ADDITIONAL INFORMATION

○ **Teaching Assistant** for the below courses offered by Prof. C Krishna Mohan (PhD supervisor) at IIT Hyderabad

  ∗ CS6450 - Visual Computing
  ∗ CS6140 - Video Content Analysis
  ∗ CS6170 - Computer Vision for Autonomous Vehicle Technology
  ∗ CS6870 - Surveillance Video Analytics
○ **External Reviewer**

  ∗ IEEE International Joint Conference on Neural Networks (2024)
  ∗ IEEE Intelligent Transportation Systems Conference (2024)
  ∗ Elsevier Neurocomputing (2023)
○ Student member of International Neural Network Society (INNS)

REFERENCES

1. **Dr. C Krishna Mohan (PhD Supervisor)**
   Professor, Department of Computer Science
   Indian Institute of Technology Hyderabad
   India
   Email: ckm@cse.iith.ac.in
   Phone: (+91) 94917 12312

1. **Dr. Sobhan Babu**
   Associate Professor, Department of Computer Science
   Indian Institute of Technology Hyderabad
   India
   Email: sobhan@cse.iith.ac.in
   Phone: (+91) 96527 28127

1. **Dr. Sumanth Yenduri**
   Dean and Professor
   College of Computing and Software Engineering
   Kennesaw State University
   Marietta, GA, USA 30060
   Email: syenduri@kennesaw.edu
   Phone: (+1) 470-578-3545