Jayakrishnan Anandakrishnan, Ph.D.

Linkedin | jaykrizz@gmail.com | +91-8075042940| Website

Summary

A dedicated and versatile researcher with expertise in Machine Learning, Deep Learning, Data Analytics, and advanced spatiotemporal integrations with Remote Sensing, GIS, UAVs, and Edge-IoT Intelligence. Experienced in developing innovative solutions for real-world challenges, including predictive modeling, environmental monitoring, and geospatial analysis.

Research Interests

- **Machine Learning and Deep Learning**
- **Spatiotemporal Data Analysis**
- **Remote Sensing and GIS**
- **UAV-Assisted Technology**
- **Edge-IoT Intelligence**
- **Env and Agri Monitoring**

Research Skills

- Skilled in conducting collaborative scientific research and translating findings into high-quality research articles, conference presentations, and posters
- Proficient in drafting patent submissions and ensuring their alignment with innovative discoveries
- Experienced in writing project proposals for various contexts, emphasizing their SDG relevance
- Capable of managing and leading research projects, overseeing timelines, resources, and team coordination to ensure project goals are met.
- Competent in mentoring, evaluating, and guiding undergraduate and postgraduate students toward focused research directions

Education

National Institute of Technology Puducherry, India — Jan 2021 - Mar 2025
PhD in Computer Science and Engineering

Cochin University of Science and Technology, Kerala, India — Jul 2011 - Jun 2013
Master of Technology in Computer Science (Image Processing)

Kerala University, Kerala, India — Jul 2007 - Jun 2011
Bachelor of Technology in Computer Science and Engineering

Experience in Academia

Research Intern - IIPP NSTC Fellow — Nov 2023 - Jan 2024
IDEA Lab, National Yunlin University of Science and Technology, Douliu, Yunlin, Taiwan — 3 Months

Assistant Professor (On Contract) — July 2013 - Apr 2016
Government College of Engineering (Manged by IHRD), Kerala, India — 2 Year 9 Months

Experience in Industry

IT System and Network Engineer — Jan 2018 - Dec 2020
Etihad Steel Factory, Qatar — 3 Year

IT System Administrator — May 2016 - Jul 2017
Graceland IT Solutions, Kerala, India — 1 Year 3 Months

Publications in Journals

[1] **Jayakrishnan Anandakrishnan**, Venkatesan Meenkaski Sundaram, and Prabhavathy Paneer. "*STA-AgriNet: A Spatio-Temporal Attention Framework for Crop Type Mapping from Fused Multi-Sensor Multi-Temporal SITS*". In: ***IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*** 18 (**2025**), pp. 1817–1826. DOI: 10.1109/JSTARS.2024.3510468. **[SCIE,Q1][IF: 5.3]**.

[2] Arun Kumar Sangaiah, **Anandakrishnan, Jayakrishnan**, Sujith Kumar, Gui-Bin Bian, Salman A. AlQahtani, and Dirk Draheim. "Point-KAN: Leveraging Trustworthy AI for Reliable 3D Point Cloud Completion With Kolmogorov Arnold Networks for 6G-IoT Applications". In: *IEEE Internet of Things Journal* (**2025**), pp. 1–1. DOI: 10.1109/JIOT.2025.3576434. **[SCIE,Q1][IF: 8.9]**.

[3] Arun Kumar Sangaiah, **Anandakrishnan, Jayakrishnan**, Nguyen Khanh Son, Hendri Darmawan, GUI-Bin Bian, and Mohammed J. F. Alenazi. "*LCUT-Sv9: UAV-Assisted Powerline Inspection Framework with Secure Time-Sensitive Communication for Industry 5.0*". In: ***IEEE Open Journal of the Communications Society*** (**2025**), pp. 1–1. DOI: 10.1109/OJCOMS.2025.3537105. [**SCIE,Q1**][**IF: 6.1**].

[4] **Jayakrishnan Anandakrishnan**, Arun Kumar Sangaiah, Hendri Darmawan, Nguyen Khanh Son, Yi-Bing Lin, and Mohammed J. F. Alenazi. "*Precise Spatial Prediction of Rice Seedlings From Large Scale Airborne Remote Sensing Data Using Optimized Li-YOLOv9*". In: ***IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*** (**2024**), pp. 1–13. DOI: 10.1109/JSTARS.2024.3505964. [**SCIE,Q1**][**IF: 5.3**].

[5] **Jayakrishnan Anandakrishnan**, Venkatesan M Sundaram, and Prabhavathy Paneer. "*CERMF-Net: A SAR-Optical Feature Fusion for Cloud Elimination From Sentinel-2 Imagery Using Residual Multiscale Dilated Network*". In: ***IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*** 17 (**2024**), pp. 11741–11749. DOI: 10.1109/JSTARS.2024.3411032. [**SCIE,Q1**][**IF: 5.3**].

[6] Arun Kumar Sangaiah, **Jayakrishnan Anandakrishnan**, Aniruth Reddy Devarapelly, Muhammad Luqman Arif Bin Mohamad, Gui-Bin Bian, Mohammed J. F. Alenazi, and Salman A. AlQahtani. "*R-UAV-Net: Enhanced YOLOv4 With Graph-Semantic Compression for Transformative UAV Sensing in Paddy Agronomy*". In: ***IEEE Transactions on Cognitive Communications and Networking*** (**2024**), pp. 1–1. DOI: 10.1109/TCCN.2024.3452053. [**SCIE,Q1**][**IF: 7.0**].

[7] Arun Kumar Sangaiah, **Jayakrishnan Anandakrishnan**, Venkatesan Meenakshisundaram, Mohd Amiruddin Abd Rahman, Padmapriya Arumugam, and Mrinali Das. "*Edge-IoT-UAV Adaptation Toward Precision Agriculture Using 3D-LiDAR Point Clouds*". In: ***IEEE Internet of Things Magazine*** (**2024**), pp. 1–7. DOI: 10.1109/IOTM.001.2400027. [**SCOPUS**].

[8] Alkha Mohan, Venkatesan M., Prabhavathy P., and **Jayakrishnan Anandakrishnan**. "*Temporal convolutional network based rice crop yield prediction using multispectral satellite data*". In: ***Infrared Physics & Technology*** 135 (**2023**), p. 104960. ISSN: 1350-4495. DOI: https://doi.org/10.1016/j.infrared.2023.104960. [**SCIE,Q2**][**IF: 3.4**].

[9] A. K. R, G. C, V. R. A, V. M, and **Jayakrishnan Anandakrishnan**. "*Crop Classification using Semi-supervised Learning on Data Fusion of SAR and Optical Sensor*". In: ***International Research Journal on Advanced Science Hub*** 5.Issue 05S (**2023**), pp. 443–453.

Publications in Conferences

[1] **Jayakrishnan Anandakrishnan**, Arun Kumar Sangaiah, Nguyen Khanh Son, Shivani Kumari, Muhammad Luqman Arif, and Mohd Amiruddin Abd Rahman. "*UAV-Based Deep Learning with Tiny-YOLOv9 for Revolutionizing Paddy Rice Disease Detection*". In: ***2024 IEEE International Conference on Smart Internet of Things (SmartIoT)***. **2024**, pp. 16–21. DOI: 10.1109/SmartIoT62235.2024.00012. [**SCOPUS**].

[2] **Jayakrishnan Anandakrishnan**, M Venkatesan, and P Prabhavathy. "*MAE-CG: A Multi-Attention Enhanced Thin Cloud-Removal Generative Adversarial Network for Airborne Imagery*". In: ***IEEE 2024 India Geoscience and Remote Sensing Symposium (InGARSS 2024)***. **2024**. [**SCOPUS**].

[3] **Jayakrishnan Anandakrishnan**, M Venkatesan, P Prabhavathy, Santhana Krishnan J, Pavithra G, Dhanalakshmi R, and Amishaa S 3. "*Hybrid 3D-2D Deep Multi-Source Fusion Framework for Cloud Removal from SAR-Optical Data*". In: ***IEEE 2024 India Geoscience and Remote Sensing Symposium (InGARSS 2024)***. **2024**. [**SCOPUS**].

[4] **Jayakrishnan Anandakrishnan**, M Venkatesan, P Prabhavathy, and Mohan Alkha. "*MSDF-Net: A Multi-Scale Deep Fusion Network with Dilated Convolutions for Cloud Removal from Sentinel-2 Imagery*". In: ***IEEE 2023 Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)***. **2023**, pp. 63–70. DOI: 10.1109/APSIPAASC58517.2023.10317471. [**SCOPUS**].

Publications in Book Chapter

[1] **Jayakrishnan Anandakrishnan**, M Venkatesan, P Prabhavathy, and Alkha Mohan. "*A Parallel Attention Guided Generative Adversarial Network for Efficient Thin Cloud Removal from Satellite Imagery*". In: *Generative Adversarial Networks for Remote Sensing*. Ed. by Karbhari Vishwanth Kale Amol Dattatraya Vibhute Rajesh Kumar Dhanaraj. **IGI Global**, **2025**. [**SCOPUS**].

[2] Alkha Mohan, **Jayakrishnan Anandakrishnan**, M Venkatesan, and P Prabhavathy. "*T-HyC : A Transfer Learning-based Multi-Scale 3D-2D Feature Aggregation for Hyperspectral Image Classification*". In: *Computational Intelligence Based Hyperspectral Image Analysis and Applications*. Ed. by Ajith Abraham Anu Bajaj. **Springer Nature**, **2025**. [**SCOPUS**].

[3] Alkha Mohan and **Jayakrishnan Anandakrishnan**. "*Leaf-CAP: A Capsule Network-Based Tea Leaf Disease Recognition and Detection*". In: *Predictive Analytics in Smart Agriculture*. Ed. by S. Krishnan, A. J. Anand, N. Prasanth, S. Goundar, and C. Ananth. **CRC Press**, **2023**. [**SCOPUS**].

Certificates/Achievements

- **Best Paper Award:** Received the prestigious "Best Paper Award" for our research titled "*UAV-Based Deep Learning with Tiny-YOLOv9 for Revolutionizing Paddy Rice Disease Detection*" at the **IEEE Smart IoT 2024 Conference in Shenzhen, China.**

Reviewer Activities

- IEEE Transactions on Geoscience and Remote Sensing
- IEEE Transactions on Cognitive Communications and Networking
- IEEE Geoscience and Remote Sensing Letters
- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
- IEEE Internet of Things Journal
- Remote Sensing Applications: Society and Environment
- Earth Science Informatics
- Neurocomputing
- International Journal of Cognitive Computing in Engineering
- Scientific Reports
- Signal, Image and Video Processing
- Plant Growth Regulation
- Discover Artificial Intelligence
- Discover Applied Sciences
- IGI Global

Technical Skills and Competencies

- **Programming Languages:** Python, Matlab, R, C, C++
- **Deep Learning Frameworks:** TensorFlow, Keras, PyTorch
- **Research Tools for Scientific Writing:** LaTeX, Word, Draw.io, Photoshop
- **Languages:** English (Proficient), Hindi, Tamil, Malayalam (Native)

Reference

Dr. M. Venkatesan
PhD Supervisor
Associate Professor and Head
Dept. of CSE
NIT Puducherry
Puducherry, Karaikal, India
Email: venkisakthi77@gmail.com
venkatesan.msundaram@nitpy.ac.in

Dr. Kuman P
Doctoral Committee Chairperson
Assistant Professor
Dept. of CSE
NIT Puducherry
Puducherry, Karaikal, India
Email: kuman.p@nitpy.ac.in

Dr. Sanjay Bankapur
Doctoral Committee Member
Assistant Professor
Dept. of CSE
NIT Puducherry
Puducherry, Karaikal, India
Email: sanjay.bankapur@nitpy.ac.in