Jayakrishnan Anandakrishnan, Ph.D.

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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 - May 2025
PhD in Computer Science and Engineering — CGPA: 8.69/10.0

Cochin University of Science and Technology, Kerala, India — Jul 2011 - Jun 2013
Master of Technology in Computer Science (Image Processing) — CGPA: 8.71/10.0

Kerala University, Kerala, India — Jul 2007 - Jun 2011
Bachelor of Technology in Computer Science and Engineering — CGPA: 6.54/10.0

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-Svg: 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,Q1**][**Cite Score: 6.8**].

[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.**

- **Organizing Committee Member:** Served as an **Organizing Committee Member** for the *2023 International Conference on Signal Processing, Computation, Electronics, Power and Telecommunication (IConSCEPT)*, held during **25–26 May 2023** at the **National Institute of Technology Puducherry**, Karaikal, India.

- **Cisco Certified Network Associate (CCNA)** – **Routing and Switching:** Successfully completed the certification issued by **Cisco Systems, Inc.** on **August 9, 2016**. **Cisco ID: CSC013059213.**

- **Paper Presentation** – **Aarohan 2K13:** Presented a paper at the *National Conference on Emerging Trends in Information Technology (Aarohan 2K13)*, organized by the Department of Computer Science & Engineering, **LBS College of Engineering, Kasaragod** on **21 March 2013**.

- **Paper Presentation** – **NCACC 2013:** Presented a research paper titled *"Blind Image Decomposition Based on Sparse Representation"* at the *National Conference on Advanced Computing and Communication (NCACC 2013)*, held at **Sree Buddha College of Engineering, Pattoor** during **22–23 March 2013**.

REVIEWER ACTIVITIES (100+)

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, Engineering Applications of Artificial Intelligence, Computers and Electronics in Agriculture, Remote Sensing Applications: Society and Environment, Earth Science Informatics, International Journal of Applied Geospatial Research, Neurocomputing, International Journal of Cognitive Computing in Engineering, Scientific Reports, Signal, Image and Video Processing, Plant Growth Regulation, Plant Methods, Science Progress, International Journal of Agricultural and Environmental Information Systems (IJAEIS), 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

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