Nishankar Sathiyamohan

+94 076-4246-658 nishannishankar@gmail.com Portfolio LinkedIn GitHub ResearchGate
Google Scholar

Education

University of Peradeniya — Kandy, Sri Lanka
B.Sc (Hons) in Computer Engineering, CGPA: 3.50/4.00 — *Nov 2018 – Dec 2023*

Hartley College — Point Pedro, Sri Lanka
GCE Advanced Level - Physical Sciences — *Jan 2009 – Aug 2017*

- Results: Combined Mathematics (A), Chemistry (A), Physics (B)

Publications

1. S. Nishankar, V. Pavindran, T. Mithuran, S. Nimishan, S. Thuseethan, and Y. Sebastian, **"ViT-RoT: Vision Transformer-Based Robust Framework for Tomato Leaf Disease Recognition**," *AgriEngineering*, vol. 7, no. 6, p. 185, 2025. DOI:10.3390/agriengineering7060185 | **Q1** — Jun 2025

- Analyzed various Vision Transformer architectures to build a robust disease recognition model for food security, enabling automated, early detection of plant diseases.

2. S. Nishankar, T. Mithuran, S. Nimishan, V. Pavindran, and S. Thuseethan, **"TOM-SSL: Tomato Disease Recognition using Pseudo-labelling based Semi-supervised Learning**," *AgriEngineering*, vol. 7, no. 8, p. 248, 2025. DOI:10.3390/agriengineering7080248 | **Q1** — Jul 2025

- Proposed a semi-supervised learning framework using pseudo-labelling to effectively classify tomato leaf diseases, significantly reducing the dependence on large, manually annotated datasets.

3. George, R., **Nishankar, S.**, Thuseethan, S., Wimalasooriya, C., Sebastian, Y., Ragel, R. G., & Liang, Z. (2026). **U-FedTomAtt: Ultra-lightweight Federated Learning with Attention for Tomato Disease Recognition.** *arXiv preprint arXiv:2602.16749*. Published Feb 18, 2026. arXiv:2602.16749 | IEEE Transactions on Information Forensics and Security (Under Review) — Feb 2026

- Proposed an ultra-lightweight Federated Learning framework integrated with an attention mechanism to enable privacy-preserving tomato disease detection on resource-constrained edge devices.

4. T. Shyamalee*, **S. Nishankar***, S. Thuseethan, C. Wimalasooriya, and Y. Sebastian, **"Deep Semi-supervised Learning for Medical Image Analysis: A Survey** | *ACM Computing Surveys (Revision)* | **Equal Contribution* — Sept 2025

- Conducted an extensive survey of semi-supervised learning frameworks, categorising state-of-the-art methods that mitigate the dependency on large-scale expert-annotated medical datasets.

5. Sathiyamohan Nishankar, Gowshalini Rajalingam, Selvarajah Thuseethan, Yakub Sebastian, Chathrie Wimalasooriya, Sami Azam, Kheng Cher Yeo and Mamoun Alaza, **Self-xViT: Self-supervised Vision Transformer for Explainable Tomato Leaf Disease Detection** | *Applied Intelligence* | *(Under Review)* — Jan 2026

- Developed a novel self-supervised Vision Transformer training framework with a localized attention mechanism to provide visual explanations for predictions.

6. Thilini Bakmeedeniya, Roshan G. Ragel, Palanisamy Vigneshwaran, **Sathiyamohan Nishankar** and Selvarajah Thuseethan, **From Unimodal to Multimodal Deep Physiological Signal Analysis in Healthcare: A Survey** | *Computer Science Review* | *(Under Review)* — Mar 2026

- Conducting a comprehensive survey of deep learning models for physiological signal analysis, focusing on multimodal fusion strategies and explainability in healthcare AI.

7. Romiyal George, **Sathiyamohan Nishankar**, Selvarajah Thuseethan, Kandiah Pakeerathan, Roshan G. Ragel, **SLIF-Brinjal: An In-Field Leaf Dataset for Disease Recognition in Precision Agriculture** | *Scientific Data* | *Under Review* — Feb 2026

- Curated a novel, high-resolution dataset of brinjal leaf diseases captured in real-field conditions to facilitate robust model training for precision agriculture.

8.Tharindu Godage, **Sathiyamohan Nishankar**, Shanmuganathan Vasanthapriyan, Selvarajah Thuseethan, Zhongwei Liang, **Trends, Challenges and Future Directions in Deep Learning for Citrus Leaf Disease Recognition: A Survey** | *Artificial Intelligence* | *Under Review* Jan 2026

- Systematically reviewed deep learning methodologies for citrus disease detection, identifying key bottlenecks in data diversity and model generalisation across different cultivars.

Honors & Awards

Best Researcher Award (Faculty Level) Sabaragamuwa University (2025)

1st Place: Pre Aces Hackathon, Inter-University Coding Competition 2022

Professional Experience

Lecturer Apr 2025 – Present
Sabaragamuwa University of Sri Lanka *Dept. of Software Engineering*

- Teaching undergraduate courses and supervising final year research projects.
- **University Business Linkage (UBL) Coordinator**: Facilitating collaboration between industry partners.
- **Assistant Research Coordinator**: Managing departmental research activities.

Lecturer Apr 2024 – Apr 2025
University of Jaffna *Dept. of Computer Engineering*

Instructor Jan 2024 – Apr 2024
University of Peradeniya *Dept. of Computer Engineering*

Freelance Software Developer 2022 – Present
Remote (Self-Employed)

- Developed DUCAS AI to automate daily reporting in construction using Azure, GPT-4o, and FastAPI.

Software Engineering Intern Dec 2022 – Apr 2023
Infinity Innovators Pvt *Colombo, Sri Lanka*

- Developed WAKA, a full-stack online vehicle marketplace for NZ using React.js and AWS.

Teaching Experience

Sabaragamuwa University of Sri Lanka – *Lecturer* 2025 – Present

- Taught: **Artificial Intelligence**, **Computer Communication Networks**, **High Performance Computing (HPC)**, **Cloud Computing**, and **Game Design and Development**, **Parallel and Distributed Computing**, **Cloud Computing**

University of Jaffna – *Lecturer on Contract* 2024 – 2025

- Taught: **Embedded Systems**, **Computing**, **Digital Image Processing**, and **Applied Algorithms**.

University of Peradeniya – *Instructor* 2024

- Led instruction for: **Artificial Intelligence**, **Computer Communication Networks**, and **Advanced Database Management Systems**.

Projects

Efficient Transfer Learning and XAI for Histopathology 2023

- Utilized XAI methods (SHAP, LIME, GradCAM) to enhance model trust.

Road Sign Detection in Low Light Conditions 2023

- Developed an AI system using YOLOv8 to detect signs in low-light conditions.

Academic Service & Memberships

Editor ICARC (2026), ComURS (2026), ICSUSL (2025)

Reviewer ICARC International Conference (2026), ComURS Symposium (2026)

Publication Chair ComURS Symposium (2026), ICARC International Conference (2026)

Registration Chair ICARC International Conference (2026)

Open Track Co-Chair ICARC International Conference (2026)

Member Institute of Electrical and Electronics Engineers (IEEE)

Technical Skills

Programming: Python, Node.js, Express.js, Django, Flask, FastAPI, Java, C++, SQL
AI/ML: PyTorch, TensorFlow, Keras, OpenCV, Scikit-learn, YOLOv8, Hugging face, Nerfstudio
Cloud/DevOps: AWS (Serverless, EC2, S3), Azure, Docker, Git, React.js, Flutter

References

Prof. Roshan G. Ragel

- Head of the Department, Dept. of Computer Engineering, Faculty of Engineering, University of Peradeniya
- Email: roshanr@eng.pdn.ac.lk

Dr. Anantharajah Kaneswaran

- Dean of the Faculty of Engineering, Department of Computer Engineering, University of Jaffna
- Email: kanesh@eng.jfn.ac.lk