RASHINI LIYANARACHCHI

PHD STUDENT

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SRI LANKAN

Rashini Liyanarachchi

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Rashy98

Website

SKILLS

Technical Skills

- Machine Learning & Deep Learning
- Image Processing
- Audio and Video Signal Processing
- Computer Vision
- Multimodal Learning
- Generative AI
- Data structures and Algorithms
- Experimental Design & Evaluation
- Python
- Bitbucket
- Docker
- Overleaf

Soft Skills

- Research Innovation
- Critical Thinking
- Problem Solving
- Teamwork
- Communication
- Adaptability
- Self-Motivation
- Time Management
- Attention to Detail

PROFILE

PhD student in Artificial Intelligence specializing in multimodal music emotion recognition. Research focuses on integrating audio, lyrical, and visual modalities using deep learning, large language models, and generative AI to model human emotional perception in music. Experienced in machine learning, signal processing, and data analysis, with interests in affective computing and intelligent media systems. Passionate about advancing emotion-aware technologies that bridge creativity, perception, and AI-driven music understanding.

WORK EXPERIENCE

Research Officer (LLM Engineer) - Part Time **APR 2025 - PRESENT**

The Kirby Institute, Sydney, Australia

- Developing and fine-tuning LLMs for epidemic intelligence, enabling real-time analysis of global health data for early outbreak detection.

Casual Academic **SEPT 2024 - PRESENT**

University of New South Wales (UNSW), Sydney, Australia

- Conducting tutorial sessions for postgraduates and undergraduates
- Assist in assignment marking and provide constructive feedback.
- Modules:
  - Artificial Intelligence (COMP9414): Sept 2024 - Nov 2024
  - Natural Language Processing (COMP6713): Feb 2025 - Present

Lecturer **OCT 2024 - JAN 2025**

Universal College Lanka, Sri Lanka - in partnership with the University of Central Lancashire, UK

- Conducting lectures for students undertaking Bachelors degrees programs and foundation programs offered by the University of Central Lancashire, UK
- Modules: Agile Professional, Web Content Management, UX, Introduction to Computer Science

Academic Instructor **FEB 2022 - JUL 2022**

Sri Lanka Institute of Information Technology, Sri Lanka

Intern – Software Developer **JAN 2020 - JAN 2021**

Pearson Lanka (Pvt) Ltd, Colombo, Sri Lanka

- Contributed to multiple Research & Development (R&D) projects by developing and optimizing algorithms.
- Assisted in the development of an ongoing web application project, ensuring functionality and performance improvements.
- Gained hands-on experience in software development, problem-solving, and industry best practices.

LANGUAGES

- English (Fluent)
- Sinhala(Fluent)

CERTIFICATIONS

Certificate in JAVA Programming (2018)
Sri Lanka Institute of Information Technology, Sri Lanka

Advanced training course on AutoCAD 2D & 3D (2017)
Construction Industry Development, Sri Lanka

GRANTS

Faculty of Engineering – EDI Outreach Fund, UNSW (2025). Co-recipient (team of 5).

- Funded outreach initiatives to promote equity, diversity, and inclusion in STEMM.

LEADERSHIP, OUTREACH & SERVICE

STEMM Champion, UNSW (2025–present)

Member, *CSE Equity, Diversity & Inclusion (EDI) Working Group,* UNSW (2025–present)

INVITED TALKS AND TUTORIALS

Tutorial : "Tutorial on Elevating Literature Reviews through Dynamic Data Retrieval from Publication Databases using Python", 4th International Conference on Advanced Research in Computing (ICARC), 2024

REFERENCE

Dr. Aditya Joshi
Senior Lecturer,
University of New South Wales (UNSW), Sydney, Australia.
Email: aditya.joshi@unsw.edu.au

Dr. Janaka Wijekoon
Affiliated Researcher, Keio University, Japan;
Lecturer, Victorian Institute of Technology, Australia
Email: janaka.wijekoon@vit.edu.au

EDUCATION

UNIVERSITY OF NEW SOUTH WALES (UNSW), AUSTRALIA MAY 2024 - PRESENT
Doctor of Philosophy (PhD) in Computer Science and Engineering

- Research focus: **Multimodal Music Emotion Recognition;** music emotion recognition using audio, lyrics, and video.

- **Awards & Scholarships:**
  - ***University International Postgraduate Award (UIPA)*** – 2024 (Full scholarship for PhD studies at UNSW)
  - ***UNSW STEMM Champions Program*** – 2025 (Selected for a career development and mentorship program for women and gender-diverse leaders in STEMM.)

NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE 2022 - 2023
Master of Computing (Artificial Intelligence Specialization)

SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY (SLIIT), SRI LANKA 2018-2021
Bachelor of Science (Hons) in Information Technology (Software Engineering)

- Dissertation: InCOV Chamber: Intelligent Chamber to Detect Potential COVID-19 Positive Patients – 50,000 words
- GPA: 3.88 / 4.0
- **Awards & Honors**:
  - Dean's List – All 8 semesters
  - 2 Full Academic Semester Performance-Based Scholarships
  - 3 Half Academic Semester Performance-Based Scholarships
  - 3rd Place – Mini Hackathon

PUBLICATIONS

- **Liyanarachchi, R.**, Joshi, A., & Meijering, E. (2025). A Survey on Multimodal Music Emotion Recognition - ACM Computing Surveys **(Under Review)**
- **Liyanarachchi, R.**, Tran, F., Hasan, M. M., Joshi, A., & Meijering, E. (2025). A hybrid framework for song lyric annotation based on human–LLM alignment. - Natural Language Processing Journal **(Submitted)**
- De Silva, A., Wijekoon, J. L., **Liyanarachchi, R.**, Panchendrarajan, R., & Rajapaksha, W. (2024). AI insights: A case study on utilizing ChatGPT intelligence for research paper analysis. In Proceedings of the 14th International Workshop on Bibliometric-enhanced Information Retrieval (BIR 2024). CEUR Workshop Proceedings **(Published)**
- **Liyanarachchi, R.**, Wijekoon, J., Prematthilaka, M., & Vidhanaarachchi, S. (2023). COVID-19 symptom identification using deep learning and hardware emulated systems. Engineering Applications of Artificial Intelligence, 125, 106709 **(Published)**
- **Liyanarachchi, R. K.**, Prematthilaka, M., Samarawickrama, H., & Thilakasiri, N. (2022). InCOV Chamber: Intelligent chamber to detect potential COVID-19 positive patients. In Proceedings of the International Conference on Information Networking (ICOIN 2022) (pp. 140–145). IEEE. **(Published)**
- **Liyanarachchi, R. K.**, Prematthilaka, M., Samarawickrama, H., & Thilakasiri, N. (2021). InCOV Chamber: An IoT-based intelligent chamber to monitor and identify potential COVID-19 positive patients. In Proceedings of the 3rd International Conference on Advancements in Computing (ICAC 2021) (pp. 55–60). IEEE. **(Published)**
- Vidhanaarachchi, S., Wijekoon, J. L., Gunasekara, T., & **Liyanarachchi, R.** (2021). Deep learning-based image analysis for calculating disease severity of Cocos nucifera (L.). SSRN Electronic Journal, 4212346. **(Published)**