Dulanga Weerakoon, PhD

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CONTACT INFORMATION

Name: *Weerakoon Mudiyanselage Dulanga Kaveesha Weerakoon*
Title: *Dr.*
Office mailing address: *Singapore-MIT Alliance for Research and Technology (SMART) 1 CREATE Way, 09-03 CREATE Tower, 01-13 Enterprise Wing, Singapore 138602*
Email: *dulanga.weerakoon@smart.mit.edu / dulangaw@mit.edu / dulanga.weerakoon.lk@gmail.com*
Contact number: *+65 9081 1084*
Current position: *Postdoctoral Associate (Advisors: Prof. Sanjay Sarma & Prof. Archan Misra)*

EMPLOYMENT HISTORY

Postdoctoral Associate *June 2024-Present*
SMART Research Centre, MIT (Under M3S program)
Advisors: Prof. Sanjay Sarma & Prof. Archan Misra

PhD Research Intern *Jan 2023-Jan 2024*
*Institute of High Performance Computing, A*STAR, Singapore*
Advisor: Dr. Vigneshwaran Subbaraju

Research Engineer *July 2018-July 2019*
Living Analytics Research Centre (LARC), Singapore Management University
Advisor: Prof. Archan Misra

R&D Engineer *Feb 2018-June 2018*
Synopsys, Sri Lanka

Research Assistant *Aug 2016 - Jan 2017*
LiveLabs, Singapore Management University
Advisor: Prof. Archan Misra

TEACHING EXPERIENCE

Senior Teaching Assistant *Jan 2023-Apr 2023*
Course Name: Mobile & Distributed Systems
School of Computing & Information Systems, Singapore Management University

Teaching Assistant *Aug 2021-Nov 2021*
Course Name: Information Systems & Innovation
School of Computing & Information Systems, Singapore Management University

Visiting Instructor *Mar 2016-Apr 2016*
University of Moratuwa, Sri Lanka

ACADEMIC QUALIFICATIONS

Ph.D. in Computer Science *2019-2024*
Singapore Management University
Advisor: Prof. Archan Misra, Co-Advisor: Dr. Vigneshwaran Subbaraju
Committee: Prof. Jing Jiang, Prof. Kotaro Hara, Dr. Nairan Zhang
Thesis Title: Enabling and optimizing multi-modal sense-making for human-AI interaction tasks
GPA: 3.90

B.Sc. Engineering Honours *2014-2018*
University of Moratuwa, Sri Lanka
Major: Electronic & Telecommunication Engineering GPA: 3.61

RESEARCH INTERESTS

Embodied AI, Human-Robot Collaborative Systems, Multi-Modal Learning, Mobile and Pervasive Computing, Deep Learning in Embedded Systems

JOURNAL & CONFERENCE PUBLICATIONS

Key: [C] Conference, [J] Journal, [W] Workshop, [D] Demo, [P] Poster

[C1] Mane, A., ***Weerakoon, D. (co-primary)****, Subbaraju, V., Sen, S., Sarma, S., and Misra, A., 2025. Ges3ViG : Incorporating Pointing Gestures into Language-Based 3D Visual Grounding for Embodied Reference Understanding. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). [To appear]*
Core A* Ranked, Acceptance Rate 22.1%

[C2] ***Weerakoon, D.****, Subbaraju, V., Lim, JH., and Misra, A., 2025. NeuroViG - Integrating Event Cameras for Resource-Efficient Video Grounding. IEEE/CVF Winter Conference on Applications of Computer Vision (WACV). [To appear]*
Core A Ranked

[J1] ***Weerakoon, D.****, Subbaraju, V., Lim, JH., and Misra, A., 2024. CAS: Fusing DNN Optimization Adaptive Sensing for Energy-Efficient Multi-Modal Inference. IEEE Robotics and Automation Letters. [To be presented at* ***ICRA 2025, Core A* Ranked****]*
Impact Factor 5.2

[C3] ***Weerakoon, D.****, Subbaraju, V., Tran, T. and Misra, A., 2022, October. Soft-Skip: Empowering Multi-Modal Dynamic Pruning for Single-Stage Referring Comprehension. In Proceedings of the 30th ACM International Conference on Multimedia (pp. 3608-3616).*
Core A* Ranked, Acceptance Rate 23.7%

[J2] ***Weerakoon, D.****, Subbaraju, V., Tran, T. and Misra, A., 2022. Cosm2ic: Optimizing real-time multi-modal instruction comprehension. IEEE Robotics and Automation Letters, 7(4), pp.10697-10704. [Presented at* ***IROS 2022, listed on CSRanking****]*
Impact Factor 5.2

[C4] ***Weerakoon, D.****, Subbaraju, V., Karumpulli, N., Tran, T., Xu, Q., Tan, U., Lim, JH., and Misra, A., 2020. Gesture Enhanced Comprehension of Ambiguous Human-to-Robot Instructions. In Proceedings of the 2020 International Conference on Multimodal Interaction (ICMI '20).*

[J3] Abdelzaher, T., Hao, Y., Jayarajah, K., Misra, A., Skarin, P., Yao, S., ***Weerakoon, D.*** *and Årzén, K.E., 2020. Five challenges in cloud-enabled intelligence and control. ACM Transactions on Internet Technology (TOIT), 20(1), pp.1-19.*
Impact Factor 3.9

[C5] Yao, S., Hao, Y., Zhao, Y., Piao, A., Shao, H., Liu, D., Liu, S., Hu, S., ***Weerakoon, D.****, Jayarajah, K. and Misra, A., 2019, July. Eugene: Towards deep intelligence as a service. In 2019 IEEE 39th International Conference on Distributed Computing Systems (ICDCS) (pp. 1630-1640). IEEE.*
Core A Ranked

[C6] ***Weerakoon, D.****, Jayarajah, K., Tandriansyah, R. and Misra, A., 2019, July. Resilient Collaborative Intelligence for Adversarial IoT Environments. In 2019 22th*

International Conference on Information Fusion (FUSION) (pp. 1-8). IEEE.

*[C7] Misra, A., Jayarajah, K., **Weerakoon, D.**, Tandriansyah, R., Yao, S. and Abdelzaher, T., 2019, May. Dependable machine intelligence at the tactical edge. In Artificial Intelligence and Machine Learning for Multi-Domain Operations Applications (Vol. 11006, p. 1100608). International Society for Optics and Photonics.*

*[C8] Jayarajah, K., Subbaraju, V., **Weerakoon, D.**, Misra, A. and Athaide, N., 2017, May. Discovering anomalous events from urban informatics data. In Ground/Air Multisensor Interoperability, Integration, and Networking for Persistent ISR VIII (Vol. 10190, p. 101900F). International Society for Optics and Photonics.*

POSTERS, DEMOS & WORKSHOP PAPERS

*[P1] **Weerakoon, D.**, Subbaraju, V., Lim, JH., and Misra, A., 2024, June. Poster: Towards Efficient Spatio-Temporal Video Grounding in Pervasive Mobile Devices. 22nd ACM International Conference on Mobile Systems, Applications, and Services (MobiSys 2024).*

*[D1] Rathnayake, D., **Weerakoon, D.**, Radhakrishnan, M., Subbaraju, V., Hwang, I. and Misra, A., 2023, November. VGGlass - Demonstrating Visual Grounding and Localization Synergy with a LiDAR-enabled Smart-Glass. 21st ACM Conference on Embedded Networked Sensor Systems (SenSys 2023).*

*[D2] **Weerakoon, D.**, Subbaraju, V., Tran, T. and Misra, A., 2023, January. Demonstrating Multi-modal Human Instruction Comprehension with AR Smart Glass. 15th International Conference on COMmunication Systems NETworkS (COMSNETS 2023).*

*[W1] Misra, A., **WEERAKOON MUDIYANSELAGE, D.K.W.** and Jayarajah, K., 2019. The challenge of collaborative iot-based inferencing in adversarial settings.*

HONORS & AWARDS

M3S Ph.D. Fellowship
The Mens, Manus, and Machina (M3S) is an interdisciplinary research group (IRG) of MIT's Singapore-MIT Alliance for Research and Technology (SMART) centre.

Postgraduate Doctoral Fellowship in Computing
Offered to the exceptionally qualified students at SMU based on research outcomes

2nd place in Kaggle competetion for Product Detection
Hosted by Shopee, Singapore
2nd place out of 646 teams

2nd place in Kaggle competetion for Sentiment Analysis
Hosted by Shopee, Singapore
2nd place out of 317 teams

Dean's list in Semesters 6 & 8 of B.Sc. degree
Semester GPA: 4.00

Winner of Second Prize, Ideasinc startingUp 2016 Hackathon
Organized by Nanyang Technopreneurship Center, Nanyang Technological University, Singapore

SERVICES

TPC	*2025 COMSNETS*
TPC	*2025 SysAI Workshop (Co-located with COMSNETS 2025)*
TPC	*2024 ICMLA*
Reviewer	*IEEE Transactions on Mobile Computing (TMC)*

Reviewer	*2024 WACV*
Reviewer	*Elsevier PMC*
Reviewer	*2024 IROS*
Reviewer	*2023 - 2024 ACM Multimedia*
Reviewer	*2023 - 2024 ICMLA*
Reviewer	*2025 Robotics and Automation Letters (RA-L)*

STUDENTS CO-MENTORED

Sasika Amarasinghe - B.Sc. Engineering Honours - University of Moratuwa - Visiting Research Student at SMU (2024-Present)

Hardaat Singh Baath - BE, Computer Science - Birla Institute of Technology and Science, Pilani- Goa Campus (2024-Present)

Vedant Randive - BE, Computer Science - Birla Institute of Technology and Science, Pilani- Goa Campus (2024-Present)

Tejas Khadke - BE, Computer Science - Birla Institute of Technology and Science, Pilani- Goa Campus (2024-Present)

Pranjay Yelkotwar - BE, Computer Science - Birla Institute of Technology and Science, Pilani- Goa Campus (2024-Present)

Archit Mukherjee - B. Tech, Electornics and Telecommunication - VIT Chennai - Visiting Research Student at SMU (2023-2024)

Atharv Mane - BE, Computer Science - Birla Institute of Technology and Science, Pilani- Goa Campus - Final year Thesis Project (2023-2024)

HongMeng Tan - Nanyang Polytechnic - Visiting Research Student at SMU (March 2019-May 2019)

EXTRA INTERESTS & AWARDS

Team member of SMU Table Tennis Team
Won 3rd place in Institute-Varsity-Polytechnic games (IVP 2024), Singapore.

Team member of SMU Table Tennis Team
Won 2nd place in Institute-Varsity-Polytechnic games (IVP 2023), Singapore.

Team member of University of Moratuwa Table Tennis Team
Recipient of extra-curricular colors awards

IN MEDIA

Wearing holographic glasses to command robots may make future work easier and more efficient, July 2024