

# DARSHANA RATHNAYAKE

## CONTACT DETAILS

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## RESEARCH INTERESTS

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*Areas:* **Mobile Systems**, Applied Machine Learning, & Pervasive Sensing

- Architecturing end-to-end Machine Learning pipelines for IoT-based mobile/wearable systems.

## EDUCATION

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**Singapore Management University, Singapore** 2021 - current  
*PhD Student in Computer Science*

- CGPA of 4.0/4.3
- Advisors: Prof. Archan Misra (SMU)

**University of Moratuwa, Sri Lanka** 2016 - 2020  
*BSc. Engineering in Computer Science & Engineering (First-class honours)*

- CGPA of 3.75/4.2
- Thesis: A Multimodal Sensor Fusion Framework for Mixed Reality Environment
- Advisors: Prof. Archan Misra (SMU), Dr. Indika Perera (UOM), and Lakmal Meegahapola (EPFL)

## WORK EXPERIENCE

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**SMU-CMU Living Analytics Research Centre, Singapore** Feb. 2020 - July. 2021  
*Research Engineer*

- Advisors: Prof. Archan Misra & Dr. Meera Radhakrishnan

**Singapore Management University, Singapore** Jul. 2018 - Dec. 2018  
*Research Assistant*

- Advisor: Assoc. Prof. CHENG Shih-Fen

## PUBLICATIONS

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**D. Rathnayake**, M. Radhakrishnan, I. Hwang, A. Misra, "LILOC: Enabling Precise 3D Localization in Dynamic Indoor Environments using LIDARs", In Proceedings of ACM/IEEE IoTDI 2023.

M. Radhakrishnan, **D. Rathnayake**, O. K. Han, I. Hwang, A. Misra, "ERICA: Enabling Real-time Mistake Detection & Corrective Feedback for Free-Weights Exercises", In Proceedings of ACM SenSys 2020.

**D. Rathnayake**, A.K. De Silva, D. Puwakdandawa, L.B. Meegahapola, A. Misra, I. Perera, "Jointly Optimizing Sensing Pipelines for Multimodal Mixed Reality Interactions", IEEE Conference on Mobile Ad-Hoc and Smart Systems (MASS), Delhi, India, 2020.

**D. Rathnayake**, A. Wickramarachchi, V. Mallawaarachchi, D. Meedeniya, I. Perera, "A Realtime Monitoring Platform for Workflow Subroutines", 2018 18th International Conference on Advances in ICT for Emerging Regions (ICTer), Colombo, Sri Lanka, 2018.

## DEMOS AND POSTERS

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**D. Rathnayake**, D. Weerakoon, M. Radhakrishnan, V. Subbaraju, I. Hwang, A. Misra, "Demo Abstract: VGGlass - Demonstrating Visual Grounding and Localization Synergy with a LiDAR-enabled Smart-Glass", Accepted at SenSys 2023

## AWARDS AND HONORS

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### Student Travel Grant

- ACM International Conference on Sensor Systems and Applications (Sensys) 2023
- ACM International Conference on Internet of Things Design and Implementation (IoTDI) 2023

**PhD Full Scholarship - Singapore Management University** 2021

**Dean's List - University of Moratuwa** (For outstanding academic achievement in semester 1, 3, 7, & 8) 2020

**Winner - Datathon** (Organised by Dialog Axiata in partnership with Microsoft, Huawei & PickMe.) 2019

**Award for Best Project - CMJD 35** (Institute of Java & Software Engineering, Sri Lanka) 2016

**Mahapola Scholarship** (For outstanding achievement in G.C.E. advanced level examination) 2015

## SERVICES

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### Student Volunteer

- ACM International Conference on Sensor Systems and Applications (Sensys) 2023
- ACM International Conference on Internet of Things Design and Implementation (IoTDI) 2023

## TECHNICAL SKILLS

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<b>Programming</b>	Java, Python, R, C++, Scala
<b>Frameworks</b>	PyTorch, TensorFlow
<b>Web Technologies</b>	Spring Boot, NodeJS, HTML, CSS, React
<b>Database</b>	PostgreSQL, MongoDB, Redis

## REFERENCES

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**Prof. Archan Misra**  
*Vice Provost (Research)*  
School of Computing and Information Systems  
Singapore Management University (SMU), Singapore  
**email:** archanm@smu.edu.sg

**Dr. Meeralakshmi Radhakrishnan**  
*Research Fellow*  
Data Science Institute (DSI)  
University of Technology Sydney (UTS), Australia  
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