

Damitha Lenadora

Curriculum Vitae

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Education

- 2021 – **Ph.D. in Computer Science**, *Department of Computer Science, University of Illinois, Urbana-Champaign, Illinois, USA.*
present Expected graduation: Late 2026/Early 2027
- 2015 – 2020 **Bachelor of Computer Science and Engineering**, *Department of Computer Science and Engineering, University of Moratuwa, Sri Lanka.*
GPA 4.04/4.2, 2nd in the batch
- 2014 **CIMA Foundation**, *Achievers Lanka Business School, 39 Bauddhaloka Mawatha, Colombo, Sri Lanka.*
- 2012 – 2014 **G.C.E Advanced Level Examination**, *Ananda College, Colombo 10, Sri Lanka.*
2 A passes (Physics, Chemistry) and a B pass (Mathematics), Island Rank: 369, District Rank: 75
- 2010 – 2011 **G.C.E. Ordinary Level Examination**, *Ananda College, Colombo 10, Sri Lanka.*
All A passes

Work Experience

- 2021 – Working as a *Research Assistant* under **Prof. Charith Mendis** in the **Department of Computer Science, University of Illinois, Urbana-Champaign** on Graph Neural Network (GNN) optimizations.
present
- 2024 Working at an internship in **Samsung Semiconductor, Inc.** My task was focused on writing MLIR passes for tensor re-distribution.
- 2020 – 2021 Joined the **Computer Science and Engineering of the University of Moratuwa** as a *Junior Consultant*, and later as a *Contract Lecturer*. My main responsibility was to support the lecturers in the department with various tasks and handle programming labs.
- 2018 Was a part of a team at **CodeGen International Pvt. Ltd.** that was responsible for creating a chatbot for travel-based scenarios. Worked on developing the UI to manage responses for an intent-entity combination, retrieval of the said responses during the operation of the chatbot, as well as research on implementing the NLP functions of the chatbot using Deep Learning.

Research Interests

My research interests lie in the intersection of Machine Learning and Systems. More specifically, optimizations for machine learning that use sparse computations. However, I'm interested in optimizations in general, especially compiler-related optimizations.

Publications

Conferences

1. **D. Lenadora**, N. Jayakumar, C. Sudusinghe and C. Mendis, "GALA: A High Performance Graph Neural Network Acceleration LAnguage and Compiler", Proc. ACM Program. Lang. 9, OOPSLA2, Article 335 (October 2025), 29 pages. doi: 10.1145/3763113 - **(Most Recent Work)**
2. **D. Lenadora**, V. Sathia, G. Gerogiannis, S. Yesil, J. Torrellas and C. Mendis, "GRANII : Selection and Ordering of Primitives in GRAph Neural Networks using Input Inspection", CGO, 2026 (To appear)
3. C. Sudusinghe, G. Gerogiannis, **D. Lenadora**, C. Block, J. Torrellas and C. Mendis, "COGNATE: Acceleration of Sparse Tensor Programs on Emerging Hardware using Transfer Learning", Forty-second International Conference on Machine Learning, 2025 openreview.net/forum?id=EV0itGFjmm
4. G. Gerogiannis, S. Yesil, **D. Lenadora**, D. Cao, C. Mendis, and J. Torrellas, "SPADE: A Flexible and Scalable Accelerator for SpMM and SDDMM", International Symposium on Computer Architecture, 2023
5. N. Perera, V. Abeykoon, C. Widanage, S. Kamburugamuve, T.A. Kanewala, P. Wickramasinghe, A. Uyar, H. Maithree, **D. Lenadora** and G. Fox, "A Fast, Scalable, Universal Approach For Distributed Data Reductions", IEEE International Conference on Big Data, 2020, arxiv.org/abs/2010.14596
6. **D. Lenadora**, R. Ranathunge, C. Samarawickrama, Y. De Silva, I. Perera and A. Welivita, "Comic Digitization through the Extraction of Semantic Content and Style Analysis", 2019 19th International Conference on Advances in ICT for Emerging Regions (ICTer), Colombo, Sri Lanka, 2019, pp. 1-9. doi: 10.1109/ICTer48817.2019.9023647
7. **D. Lenadora**, A. Wickramarachchi, D. Meedeniya, V. Mallawaarachchi and I. Perera, "An Adapter Architecture for Heterogeneous Data Processing in Bioinformatics Pipelines" in Proc. 5th Moratuwa Engineering Research Conference (MERCon 2019), IEEE Explorer, Sri Lanka, July 2019. pp. 692-697. doi: 10.1109/MERCon.2019.8818781

Preprints

1. **D. Lenadora**, G. Gamage, D. Haputhanthri, D. Meedeniya and I. Perera, "Exploratory Analysis of a Social Media Network in Sri Lanka during the COVID-19 Virus Outbreak", arXiv, 2020, arxiv.org/abs/2006.07855

Journals

1. C. Samarawickrama, **D. Lenadora**, R. Ranathunge, Y. De Silva, I. Perera and A. Welivita, "Comic Based Learning for Students with Visual Impairments" in International Journal of Disability, Development and Education, doi: 10.1080/1034912X.2021.1916893
2. **D. Lenadora**, R. Ranathunge, C. Samarawickrama, Y. De Silva, I. Perera and A. Welivita, "Extraction of semantic content and styles of comics", International Journal on Advances in ICT for Emerging Regions (ICTer). 13. 1-12

Book Chapter

1. D.A. Meedeniya, I. Mahakalanda, **D.S. Lenadora**, I. Perera, S.G.S. Hewawalpita, C. Abeysinghe and S.R. Nayak, "Prediction of Paddy Cultivation using Deep Learning on Land Cover Variation for Sustainable Agriculture" in Deep Learning for Sustainable Agriculture, doi: 10.1016/B978-0-323-85214-2.00009-4

Awards, prizes and honors received

- 2022 **Travel Award - PLMW PLDI 2022.**
- 2019 **Best Paper Award in the track of Software Engineering - MERCon 2019,** Awarded for the paper "An Adapter Architecture for Heterogeneous Data Processing in Bioinformatics Pipelines"., UNIVERSITY OF MORATUWA, Sri Lanka.
- 2019 **6th Place in Sri Lanka, 155th Place in the World - IEEEXtreme 13.0.**
- 2018 **Virtusa Award - Moratuwa University Award Ceremony 2018,** Awarded for being one of the two highest mark holders for Semester 5, Software Engineering Project., UNIVERSITY OF MORATUWA, Sri Lanka.
- 2018 **Spirit of service - Rotaract Club of the University of Moratuwa,** UNIVERSITY OF MORATUWA, Sri Lanka.
- 2017 **23rd Place in Sri Lanka, 324th Place in the World - IEEEXtreme 11.0.**
- 2017 **2nd Place - Mora Xtreme 2017,** A 12-hour Intra-university algorithmic coding competition of the University of Moratuwa, done in teams of three, UNIVERSITY OF MORATUWA, Sri Lanka.
- 2015 - 2020 **Dean's list in semesters 1, 2, 3, 4, 5, 6, 7, and 8,** UNIVERSITY OF MORATUWA, Sri Lanka.

Projects

1. **CITAC - Character Identifier and Text Associator in Comics,** Final Year Project, A system created for the extraction of semantic content in comic books.
Python, TensorFlow, Keras, JS, Angular JS, MongoDB
2. **MorfiConvert - Bioinformatics Data Format Converter,** Semester 5 Engineering Project, A bioinformatics data format converter implemented in the format of a C++ library that is capable of converting bioinformatics data from one form to another with ease while providing high utility.
C++
3. **LinkShock - Smart-plug,** Micro-controller Project, A smart plug capable of monitoring the power consumption of the device connected to it and capable of turning the said device on or off via a web application.
Node JS, Vue JS, AdaFruit (MQTT)
4. **Aima - Patient management system,** A patient management system to keep track of patients who attend the clinic of the Hematology division of the Ragama Hospital.
Vue JS, Electron, nedb
5. **Frequency-based B-Tree Indexes,** Database Internals Project, Exploring the performance improvements by introducing a frequency-based promotion mechanism to B-Trees.
Java, H2
6. **BookMySeat,** Database Project, An online bus seat booking system.
Node JS, Vue JS, MySQL

Extracurricular Activities

- 2017 **Exemplar - Are You Ready? 2017,** Co-chairperson, A session focusing on how to properly face an interview in preparation for Are You Ready? 2017.
Rotaract Club of University of Moratuwa

- 2017 **Zooxanthellae**, *Secretary*, A project focused on coral preservation in the coastal areas of Sri Lanka.
Rotaract Club of University of Moratuwa
- 2016 **IQ Master 2016**, *Secretary*, An IQ based competition done within the University of Moratuwa.
Rotaract Club of University of Moratuwa
- 2016 **Are You Ready? 2016**, *Company Coordinator*, The official carriers day of the University of Moratuwa.
Rotaract Club of University of Moratuwa
- 2016 – 2017 **Community Service projects**, *Volunteer*.
Rotaract Club of University of Moratuwa

Skills

- Technical Skills ALGORITHMS, MACHINE LEARNING, WEB DEVELOPMENT
- Programming PYTHON, C++, JAVASCRIPT, JAVA, SQL, HTML