

VINDULA JAYAWARDANA

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Laboratory for Information and Decision Systems, Massachusetts Institute of Technology,
77 Massachusetts Avenue, Room 32-D631, Cambridge, MA 02139

EDUCATION

Massachusetts Institute of Technology

September 2019 - Present

Department of Electrical Engineering and Computer Science

PhD Student

Advisor: Professor Cathy Wu

University of Moratuwa, Sri Lanka

January 2014 - December 2017

B.Sc Engineering (Hons) specialized in Computer Science and Engineering

First Class Honors with a GPA of 4.08 (Out of 4.2)

In Dean's Honors List in all eight consecutive semesters

Chartered Institute of Management Accountants (CIMA)

August 2013 - June 2014

CIMA Dip. MA

Royal College Colombo 07, Sri Lanka

August 2012

G.C.E. Advance Level Examination

Physical Science Stream - 3 Distinctions

PUBLICATIONS

Journal Articles

- V. Jayawardana, D. Lakmal, N. de Silva, A. S. Perera, K. Sugathadasa, B. Ayesha, and M. Perera, "Word vector embeddings and domain specific semantic based semi-supervised ontology instance population," *The International Journal on Advances in ICT for Emerging Regions (ICTer)*, vol. 11, no. 1, 2018

Conference Papers

- V. Jayawardana, D. Lakmal, N. de Silva, A. S. Perera, K. Sugathadasa, and B. Ayesha, "Deriving a representative vector for ontology classes with instance word vector embeddings," in *2017 Seventh International Conference on Innovative Computing Technology (INTECH)*, Aug. 2017, pp. 79–84. DOI: 10.1109/INTECH.2017.8102426
- K. Sugathadasa, B. Ayesha, N. de Silva, A. S. Perera, V. Jayawardana, D. Lakmal, and M. Perera, "Synergistic union of word2vec and lexicon for domain specific semantic similarity," in *2017 IEEE International Conference on Industrial and Information Systems (ICIIS)*, Dec. 2017, pp. 1–6. DOI: 10.1109/ICIINFS.2017.8300343
- V. Jayawardana, D. Lakmal, N. de Silva, A. S. Perera, K. Sugathadasa, B. Ayesha, and M. Perera, "Semi-supervised instance population of an ontology using word vector embedding," in *2017 Seventeenth International Conference on Advances in ICT for Emerging Regions (ICTer)*, Sep. 2017, pp. 1–7. DOI: 10.1109/ICTER.2017.8257822
- K. Sugathadasa, B. Ayesha, N. de Silva, A. S. Perera, V. Jayawardana, D. Lakmal, and M. Perera, "Legal document retrieval using document vector embeddings and deep learning," in *Proceedings of the 2018 Computing Conference*, vol. 2, 2019, pp. 160–175. DOI: 10.1007/978-3-030-01177-2_12
- K. Sugathadasa, V. Jayawardana, B. Ayesha, N. de Silva, A. S. Perera, D. Lakmal, and M. Perera, "Machine learning based domain specific information retrieval accuracy measuring system for legal

domain,” in *2019 IEEE International Conference on Industrial and Information Systems (ICIIS)*, 2019, to appear.

Articles

- V. Jayawardana, “System For Cross Domain Identity Management (SCIM),” *WSO2 Digital Library*, Oct. 2017. [Online]. Available: <http://bit.ly/wso2scim>

Academic Talks

- V. Jayawardana, *Ride sharing in mobility on demand systems: Opportunities, challenges and future*, talk at *DataDrives - Data science applications in technology based industries*, Trace Expert City, Colombo, Nov. 2018

RESEARCH EXPERIENCE

University of Moratuwa, Sri Lanka

January 2018 - July 2019

Data Science, Engineering and Analytics Research Hub(DataSEARCH) Graduate Research Assistant

- Advisors : Prof. Samitha Samaranayake, Dr. Shehan Perera and Dr. Uthayasanker Thayasivam
- Conducting experiments and evaluating the impact and effect of on-demand high capacity ride sharing in mobility on demand systems for Sri Lanka.

Cornell University, USA

June 2018 - August 2018

Mobility, Algorithms, and Society Lab (MAASLab)

Research Assistant

- Advisor : Prof. Samitha Samaranayake
- Implemented a state-of-art ride sharing algorithm from the literature and built a comprehensive validation framework for ride sharing.
- Developed and tested an algorithm to compute an optimal path for a given taxi with a set of passengers having multiple meeting points and also adhering to service constraints such as capacity, precedence, and waiting time.

University of Moratuwa, Sri Lanka

January 2017 - December 2017

Department of Computer Science and Engineering

Undergraduate

- Advisors : Dr. Shehan Perera and Mr. Nisansa de Silva
- Built an ontology-based legal information extraction framework.

PROFESSIONAL EXPERIENCE

Digital Mobility Solutions Lanka Pvt Ltd

January 2018 - July 2019

PickMe Engineering

Consultant Research Engineer

- Involved in optimizing the existing routing engine and the booking engine with a focus on optimizing fleet usage by passenger and taxi pooling.
- Developed routing algorithm which can accommodate multiple delivery requests per delivery person in PickMe Food delivery.

Trancite24 Pvt Ltd

January 2016 - July 2019

University of Moratuwa affiliated private company

Co-founder and CTO

- Designed location-based sensing and navigation solutions to improve the standards of the transportation industry in Sri Lanka.
- Designed software systems for monitoring and management of environmental quality both indoor and outdoor.
- Designed automation solutions to continuous monitoring and management of processes.

- Mentor : Mr. Prabath Siriwardena
- Implemented SCIM 2.0 Support for WSO2 Identity Server.
- Implemented WSO2 Charon - SCIM 2.0 open source library of WSO2.

TEACHING

Instructor

CS2022 - Data Structures and Algorithms

UoM Spring 2019

Teaching Assistant

1.041 - Transportation Systems Modeling

MIT Fall 2019

CS3042 - Database Systems

UoM Fall 2018

CS2052 - Computer Architecture

UoM Fall 2018

CS2062 - Object Oriented Software Development

UoM Spring 2018

CS2963 - Presentation Skills

UoM Fall 2017

CS3962 - Research and Report Writing

UoM Spring 2018

CS4052 - Professional Practice

UoM Fall 2018

AWARDS AND HONORS

Migara Ranathunga Trust Award

2017/2018

- For Industrial Training for University Undergraduates

Gold Award at National Best Quality ICT Awards

2017

- Best ICT student technology project of the year

Academic Excellence Award 2017

2017

- Department of Computer Science & Engineering, University of Moratuwa

Academic Excellence Award 2016

2016

- Department of Computer Science & Engineering, University of Moratuwa

World Finalist in NASA International Space Apps

June 2017

- Within best 5 products in the world with the most potential to improve life on earth or in the universe out of 25,140 participants in 69 countries.

World Finalist in Air Asia Airvolutaion

March 2017

- Within top 20 products in the world. Organized by Air Asia in Malaysia.

Google Summer of Code

2017

- Designed and implemented a SCIM 2.0 Compliance Test Suite according to IETF specifications as a Google Summer of Code 2017 participant.

University Awards

2017

- Earned a special recognition for outstanding non-academic performance.

University Awards

2016

- Earned a special recognition for outstanding non-academic performance.

Winner in Google, I/O Extended Sri Lanka

2016

Silver Medalist in Junior Science Olympiad Competition, Sri Lanka

2010

ACTIVITIES AND SKILLS

Rotaract Club of Alumni of University of Moratuwa*March 2017 - Present*

- Director Professional Development 2018/2019
- Director Information Technology 2017/2018

Old Royalists Engineering Professionals' Association Student Chapter *April 2015 - April 2018*

- Assistant Secretary 2017/2018
- Director School Projects 2016/2017
- Mentoring Program 2015 - Project Chairperson

Rotaract Club of University of Moratuwa*March 2014 - December 2016*

- Project Chairperson and Event Coordinator

TECHNICAL SKILLS/COMPETENCIES

Programming Languages	C/C++, Python, Java, C#, PHP, Lua, JS
Database Management Systems	MySQL, MS SQL, Apache Cassandra
Software & Tools	LaTeX, Git, BitBucket

PERSONAL INFORMATION

Full Name : Vindula Muthushan Jayawardana**Citizenship :** Sri Lankan**Interests and Skills :**

- Travelling
- Eastern and Western classical music
- Blogging
- Public speaking