

OSHAN MUDANNAYAKE

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EDUCATION

University of Colombo School of Computing

Feb. 2016 - Jan. 2019

B.Sc (Hons) in Computer Science

First Class Honors with a GPA of 3.61/4.0 (Top 5%)

Ranked 6th over 156 CS students in my class

Obtained an A grade for the Final Year Research on *Summarization of Large Scale Streaming Graphs*

- Research Intern at Distributed Computing Group
- Chair, Secretary and Coordinator of IEEE Student Branch
- Core team member of Mozilla Club
- Member of CompSoc
- Instructor of Exploration Club
- Batch representative at IUD

Maliyadeva College

Jan. 2001 - Dec. 2014

G.C.E. Advance Level Examination - Physical Science Stream

- President of Robotics Club
- Team Lead of Hardware and Networking Group

PUBLICATIONS

Oshan Mudannayake, Nalin Ranasinghe. "kMatrix: A Space Efficient Streaming Graph Summarization Technique", in *10th IEEE International Conference on Information and Automation for Sustainability (ICIAfS) 2021*, Colombo, Sri Lanka, August 2021. [DOI: 10.1109/ICIAfS52090.2021.9606137].

RESEARCH EXPERIENCE

University of Colombo School of Computing

May. 2021 - Present

Research Assistant (Part-time)

Sri Lanka

- Advisor: Dr. Noel Fernando
- Working on *Modeling and Prediction of Solid Waste Generation in Sri Lanka using Machine Learning Approaches*.

Sustainable Computing Research (SCoRe) Lab

Aug. 2020 - Present

Researcher (Part-time)

Sri Lanka

- Advisor: Dr. Mohamed Nabeel
- Working on *Machine Learning based Internet Domain Entity Matching and its Applications*.

University of Colombo School of Computing - Distributed Computing Group

Jul. 2018 -

Jan. 2019

Research Intern (Full-time)

Sri Lanka

- Advisor: Dr. Nalin Ranasinghe
- Carried out a research study on the topic, *Machine Learning Over Encrypted Data*.

Language Matters

Jan. 2018 - Mar. 2020

Software Developer (Contract)

Sri Lanka

- Supervisor: Dr. Leonie Solomons
- Working part time on developing an OCR solution for Sinhala language using Tesseract OCR Engine.

Dreamteam IT Solutions

Mar. 2016 - Jan. 2017

Software Developer (Contract)

Sri Lanka

- Supervisor: Dr. Gihan Kuruppu
- Provided R&D solutions to industrial problems such as *Bra Elasticity Analyzing System*, *Yarn Detection System* and *Glove Defect Identification System*.

TEACHING EXPERIENCE

Dreamteam IT Solutions

Jan. 2016 - Jun. 2016

Course Instructor (Contract)

Sri Lanka

- Conducted sessions for introductory robotics and Java 6.

PROFESSIONAL EXPERIENCE

WSO2

Nov. 2021 - Present

Senior Data Science Engineer (Full-time)

Sri Lanka

WSO2

Apr. 2021 - Oct. 2021

Data Science Engineer (Full-time)

Sri Lanka

- Improved the HR aspects of the company by introducing a model to predict the workforce requirement in the coming years.

WSO2

Mar. 2020 - Mar. 2021

Software Engineer - IAM Team (Full-time)

Sri Lanka

- Designed and implemented the new CORS architecture for the Identity Server 5.11.
- Worked extensively on customer support in order to give solutions for the product issues.

CERN-HSF - Google Summer of Code

May. 2018 - Aug. 2018

Student Developer

Remote

- Worked as a Google Summer of Code Participant in collaboration with *CERN-HSF*, *ownCloud* and *AARNet* to provide a prototype of a new web UI for CERNBox that will provide an immersive user experience.

RESEARCH PROJECTS

Realtime Property Evaluation of Large Streaming Graphs

Jan. 2019 - Jan. 2020

Graphs, Graph Summarization, Python

Final year research project carried on the area of massive streaming graph summarization.

TessTA

Jan. 2018 - Mar. 2020

React, Java, Spring Boot, Hibernate, Tesseract, AWS

OCR Solution for Sinhala language using Tesseract OCR Engine.

Machine Learning over Encrypted Data

Jul. 2018 - Jan. 2019

ML, Encryption, Tensorflow, Python, Google Cloud Platform

I worked on adding a layer over Tensorflow to facilitate machine learning on encrypted data over a distributed network of machines.

OTHER PROJECTS

A Reinforcement Learning agent for the GVG-AI competition

Apr. 2018 - Jun. 2018

OpenAI Gym, Tensorflow, Python

Designed and implemented an agent that could learn to play many games without knowing about the game in advance.

Intelligent Traffic Light System

Feb. 2017 - Nov. 2017

Tensorflow, Python, Angular, NodeJS, Raspberry Pi, Arduino, Ionic Framework, GCP

Traditional time interval based traffic light system was automated to remove the involvement of traffic officers.

Bra Elasticity Analyzing System

Mar. 2016 - Jan. 2017

OpenCV, Java, Swing

Implemented a way to compare the elasticity of sports bras using image processing.

Yarn Detection System

Mar. 2016 - Jan. 2017

OpenCV, Python, Raspberry Pi

Solution to detect the knots of yarn threads in glove weaving machines.

Glove Defect Identification System

Jan. 2016 - Jun. 2016

OpenCV, Python

Identified the common defect of gloves using image processing as they are being passed through a conveyor belt.

Smart Glove

Jan. 2016 - Jun. 2016

Java, JavaFX, FSR 400, Arduino

A glove prototype that can measure the pressure distribution and the acceleration of hand in order to derive the best patterns of movements for Cricket players in relation with the hand pressure.

MOOC CERTIFICATIONS

Advanced Machine Learning on Google Cloud Specialization

2021

by Google Cloud

Coursera

Data Engineering, Big Data, and Machine Learning on GCP Specialization

2021

by Google Cloud

Coursera

Machine Learning with TensorFlow on Google Cloud Platform Specialization

2021

by Google Cloud

Coursera

Deep Learning Specialization

2020

by DeepLearning.AI

Coursera

Natural Language Processing Specialization

2020

by DeepLearning.AI

Coursera

DeepLearning.AI TensorFlow Developer Specialization

2020

by DeepLearning.AI

Coursera

Generative Adversarial Networks (GANs) Specialization

2020

by DeepLearning.AI

Coursera

AI for Everyone

2020

by DeepLearning.AI

Coursera

Qwicklabs quests on ML and Data Science

2020

by Qwicklabs

Qwicklabs

PROFESSIONAL CERTIFICATIONS

Oracle Certified Professional Java SE 6 Programmer

2015

Oracle

Robotics & Automation

2015

Dreamteam IT Solutions

Professional Certified Java Developer Dreamteam IT Solutions	2015
Diploma in Software Engineering Esoft	2013
Diploma in PC Hardware and Network Administration Esoft	2010

ACHIEVEMENTS

Merit Award - Datathon - SLIIT Codefest Sri Lanka Institute of Information Technology	2019
1st place - Codezilla Mozilla Campus Club of Uva Wellassa University	2018
1st place - LetMeHack Sabaragamuwa University	2018
Participant - HackZurich Digital Festival	2019
Participant - Hack The North University of Waterloo Got selected for the hackathon from over 5000 applicants worldwide.	2018
2nd place - Presistent Hackathon Persistent Systems Lanka	2017
2nd place - HACKiNTRA University of Jaffna	2017
Finalist - CodeFest Designathon Sri Lanka Institute of Information Technology	2017
Finalist - SS12 Asia IEEE	2017
3rd place - Dialog Game Dev Hackathon Dialog Axiata	2017
1st place - Mozilla Web Maker Party Mozilla Club of University of Colombo School of Computing	2016
2nd place - CodeFest Tertiary Hackatho Sri Lanka Institute of Information Technology	2016
1st place - IEEE preXtreme 1.0 IEEE Student Branch of University of Colombo School of Computing	2016
6th place - ACES Coders University of Peradeniya	2016
5th place - Code Expertz University of Moratuwa	2016

SCHOLARSHIPS & GRANTS

AutoML Fall School Scholarship AutoML Fall School	2021
Dataquest & AI Inclusive Scholarship Dataquest	2021
Tokyo Data Science Full Scholarship Tokyo Data Science	2020
Commonwealth of Learning Coursera Scholarship Commonwealth of Learning, Canada	2020
HackZurich Travel grant Digital Festival	2019
AI Summer School Singapore Scholarship¹ AI Singapore	2019
ownCloud Conference Travel grant by CERN CERN — ownCloud	2018
Hack the North Travel grant	2018

HONOURS & AWARDS

Award of Appreciation University of Colombo School of Computing Special award on recognizing the outstanding achievements in hackathons and coding competitions.	2017
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TECHNICAL PROGRAMS

Online Asian Machine Learning School (OAMLS) <i>The 13th Asian Conference on Machine Learning</i>	Nov. 2021 <i>Remote</i>
AutoML Fall School	Nov. 2021 <i>Remote</i>
ACM Europe Summer School on HPC Computer Architectures for AI and Dedicated Applications <i>Barcelona Supercomputing Center and Universitat Politècnica de Catalunya</i>	Aug. 2021 <i>Remote</i>
AI Summer School Singapore 2021 <i>AI Singapore</i>	Aug. 2021 <i>Remote</i>
Qiskit Global Summer School 2021: Quantum Machine Learning <i>Qiskit</i>	Jul. 2021 <i>Remote</i>
AI Summer School Singapore 2020 <i>AI Singapore</i>	Aug. 2020 <i>Remote</i>

PRESENTATIONS

[Conference] kMatrix: A Space Efficient Streaming Graph Summarization Technique IEEE International Conference on Information and Automation for Sustainability 2021	<i>Jul. 2021</i> <i>Remote</i>
[Poster] Machine Learning over Encrypted Data Sri Lanka Association for the Advancement of Science (SLAAS) Exhibition 2018 <i>Colombo, Sri Lanka</i>	<i>Dec. 2018</i>

¹I did not accept this scholarship as I could not attend the event due to the university examinations.

INVITED TALKS

Rust 101 Hacktoberfest 2019 by Mozilla Club of UCSC	<i>Oct. 2019</i> <i>Colombo, Sri Lanka</i>
Lightning talk on Phoenix ownCloud Conference 2018	<i>Sep. 2018</i> <i>Nuremberg, Germany</i>

CONDUCTED SEMINARS

Career guidance for undergraduates UCSC ACM Student Chapter	<i>May. 2021</i> <i>Colombo, Sri Lanka</i>
A new CORS Valve for the WSO2 Identity Server IAM Community Call by WSO2	<i>Dec. 2020</i> <i>Colombo, Sri Lanka</i>

COMMITTEE POSITIONS

Judge panel member IEEE YESIST12 2021 - Junior Einstein Track by IEEE	Jul. 2021
Judge panel member (Machine Learning) MadHack by IEEE Student Branch of UCSC	Jul. 2021
Core Team Member Google Developer Group (GDG) Sri Lanka	2019 - Present
President IEEE Student Branch of UCSC - IEEE Regional Exemplary Student Branch 2020 under Region 10 and Sri Lanka Section - Bronze category winner of IEEE Darrel Chong Student Activity Award 2020 - Best Student Branch Activity Award for GameRush at IEEE SLSYWC 2019	2019
Team Lead Mozilla activate Sri Lanka - Rust Team	2019
Web Master IEEE Sri Lanka Section - Student activity Committee (SAC)	2018
Secretary IEEE Student branch of UCSC	2018
Operational Committee Member Mozilla Activate Sri Lanka	2018
Android Developer Global Geek Sustainable Learning Kingdom (GGSLK) Sri Lanka	2018
Operational Committee Member - Program Team IEEE Student/YP/WIE Congress	2017
Finance Team Lead Technological Awareness Project by IEEE Sri Lanka Section - Best Industry Collaborative Award at IEEE SLSYWC 2017	2017
Program Team Lead CloudHack 17 by IEEE Student Branch of UCSC - Best Student Branch Activity Award at IEEE SLSYWC 2017	2017

Core Team Member Mozilla Club UCSC	2017
Coordinator IEEE Student Branch of UCSC	2017
Operational Committee Member - Finance Team Innovator - IEEE IAS IOT Workshop	2016
Operational Committee Member - Program Team IEEE Day UCSC	2016
Instructor UCSC Exploration Club	2016
President Robotics Club - Maliyadeva College	2013
Team Lead Hardware and Networking Team - Maliyadeva College	2012 - 2013

MENTORING

Mentor at SCoRe Lab Google Summer of Code 2021	2021
Mentor at SCoRe Lab Google Summer of Code 2020	2020
Mentor at SCoRe Lab Google Summer of Code 2019	2019
Mentor at SCoRe Lab Google Code-In 2018	2018
Mentor 2nd Year Group Project Mentoring by IEEE Student Branch of UCSC	2018
Mentor at SCoRe Lab Google Code-In 2017	2017
Question Panel Member preXtreme 2.0 - IEEE Student Branch of UCSC	2017
Mentor International School Software Competition (ISSC) - Computer Society of Sri Lanka (CSSL)	2017
Mentor Help to Code - Information and Communication Technology Agency of Sri Lanka (ICTA)	2017
Mentor at SCoRe Lab Google Code-In 2016	2016
Mentor National School Software Competition (NSSC) - Computer Society of Sri Lanka (CSSL)	2016