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 2015
Dreamteam IT Solutions

Diploma in Software Engineering 2013
Esoft

Diploma in PC Hardware and Network Administration 2010
Esoft

ACHIEVEMENTS

Merit Award - Datathon - SLIIT Codefest 2019
Sri Lanka Institute of Information Technology

1st place - Codezilla 2018
Mozilla Campus Club of Uva Wellassa University

1st place - LetMeHack 2018
Sabaragamuwa University

Participant - HackZurich 2019
Digital Festival

Participant - Hack The North 2018
University of Waterloo
    Got selected for the hackathon from over 5000 applicants worldwide.

2nd place - Presistent Hackathon 2017
Persistent Systems Lanka

2nd place - HACKiNTRA 2017
University of Jaffna

Finalist - CodeFest Designathon 2017
Sri Lanka Institute of Information Technology

Finalist - SS12 Asia 2017
IEEE

3rd place - Dialog Game Dev Hackathon 2017
Dialog Axiata

1st place - Mozilla Web Maker Party 2016
Mozilla Club of University of Colombo School of Computing

2nd place - CodeFest Tertiary Hackatho 2016
Sri Lanka Institute of Information Technology

1st place - IEEE preXtreme 1.0 2016
IEEE Student Branch of University of Colombo School of Computing

6th place - ACES Coders 2016
University of Peradeniya

5th place - Code Expertz 2016
University of Moratuwa

SCHOLARSHIPS & GRANTS

AutoML Fall School Scholarship 2021
AutoML Fall School

Dataquest & AI Inclusive Scholarship 2021
Dataquest

Tokyo Data Science Full Scholarship 2020
Tokyo Data Science

Commonwealth of Learning Coursera Scholarship 2020
Commonwealth of Learning, Canada

HackZurich Travel grant 2019
Digital Festival

AI Summer School Singapore Scholarship[1] 2019
AI Singapore

ownCloud Conference Travel grant by CERN 2018
CERN — ownCloud

Hack the North Travel grant 2018

HONOURS & AWARDS

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

TECHNICAL PROGRAMS

Online Asian Machine Learning School (OAMLS) Nov. 2021
The 13th Asian Conference on Machine Learning *Remote*

AutoML Fall School Nov. 2021
Remote

ACM Europe Summer School on HPC Computer Architectures for AI and Dedicated Applications Aug. 2021
Barcelona Supercomputing Center and Universitat Politècnica de Catalunya *Remote*

AI Summer School Singapore 2021 Aug. 2021
AI Singapore *Remote*

Qiskit Global Summer School 2021: Quantum Machine Learning Jul. 2021
Qiskit *Remote*

AI Summer School Singapore 2020 Aug. 2020
AI Singapore *Remote*

PRESENTATIONS

[Conference] kMatrix: A Space Efficient Streaming Graph Summarization Technique *Jul. 2021*
Remote
IEEE International Conference on Information and Automation for Sustainability 2021

[Poster] Machine Learning over Encrypted Data *Dec. 2018*
Sri Lanka Association for the Advancement of Science (SLAAS) Exhibition 2018 *Colombo, Sri Lanka*

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[1]I 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
Oct. 2019
Colombo, Sri Lanka

Lightning talk on Phoenix
ownCloud Conference 2018
Sep. 2018
Nuremberg, Germany

CONDUCTED SEMINARS

Career guidance for undergraduates
UCSC ACM Student Chapter
May. 2021
Colombo, Sri Lanka

A new CORS Valve for the WSO2 Identity Server
IAM Community Call by WSO2
Dec. 2020
Colombo, Sri Lanka

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

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   2019
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

Team Lead   2019
Mozilla activate Sri Lanka - Rust Team

Web Master   2018
IEEE Sri Lanka Section - Student activity Committee (SAC)

Secretary   2018
IEEE Student branch of UCSC

Operational Committee Member   2018
Mozilla Activate Sri Lanka

Android Developer   2018
Global Geek Sustainable Learning Kingdom (GGSLK) Sri Lanka

Operational Committee Member - Program Team   2017
IEEE Student/YP/WIE Congress

Finance Team Lead   2017
Technological Awareness Project by IEEE Sri Lanka Section
  - Best Industry Collaborative Award at IEEE SLSYWC 2017

Program Team Lead   2017
CloudHack 17 by IEEE Student Branch of UCSC
  - Best Student Branch Activity Award at IEEE SLSYWC 2017

Core Team Member   2017
Mozilla Club UCSC

Coordinator   2017
IEEE Student Branch of UCSC

Operational Committee Member - Finance Team   2016
Innover - IEEE IAS IOT Workshop

Operational Committee Member - Program Team   2016
IEEE Day UCSC

Instructor   2016
UCSC Exploration Club

President   2013
Robotics Club - Maliyadeva College

Team Lead   2012 - 2013
Hardware and Networking Team - Maliyadeva College