

Dilshani Karunarathna

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Personal Statement

A motivated, dedicated, and capable research fellow with a solid research background, industry experience and a teaching portfolio. I am interested in developing a career which combines teaching and research while maintaining my interest in immersive technology.

Education

Bachelor of the Science of Engineering (Specialized in Computer Engineering) Nov. 2016 - Sep. 2021
Faculty of Engineering, University of Peradeniya, Sri Lanka
First Class Honours
GPA : 3.7/4.0
Final Year GPA : 4.0/4.0

G.C.E. Advanced Level Examination (Physical Science Stream) Aug 2015
Ferguson High School Ratnapura, Sri Lanka
Z Score : 1.9553
Results : Combined Mathematics - A , Physics - B, Chemistry - A

Work Experience

Temporary Instructor - Department of Computer Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka Sep 2021 - Present

- Contribute to the research works carried out in the faculty.
- Work as the Instructor In Charge of Computer Architecture and Compilers courses
- Conduct laboratory classes, and tutorial classes for the undergraduate students.
- Contribute to the projects carried out in the faculty as the Project Manager, Scrum master and Financial Assistant

Software Engineer Intern - Geveo Australasia Pvt (Ltd), Sri Lanka Apr 2021 - Aug 2021

- Actively contributed to two ongoing projects with the primary focus on full-stack web development in an Agile environment.
- Developed new functionalities and features in line with the business requirements and functional specifications.
- Developed RESTful Web APIs
- Designed and implemented data models, stored procedures, and performed database manipulations.
- Involved in bug fixing on functionality and performance.
- Designed unit tests to ensure functionality.

Research Interests

- Virtual Reality
- Augmented Reality
- Cloud Computing
- Mixed Reality
- Extended Reality
- Artificial Intelligence

Publications

- Mixed Reality based Multi-Agent Robotics Framework for Artificial Swarm Intelligence Experiments*** 2022
Dilshani Karunarathna, Nuwan Jaliyagoda, Ganindu Jayalath, Isuru Nawinne, Roshan Ragel
Robotics and Autonomous Systems Journal - Under Review
- Mixed Reality based Multi-Agent Robotics Framework for Artificial Swarm Intelligence Experiments*** 2022
Dilshani Karunarathna, Nuwan Jaliyagoda, Isuru Nawinne, Roshan Ragel
Technological Advances in Science, Medical and Engineering conferences - Abstract publication accepted
- Segmentation and significance of herniation measurement using Lumbar Intervertebral Discs from the Axial View*** 2022
Yuwin Siriwardhane, **Dilshani Karunarathna**, Imesh Ekanayake
Moratuwa Engineering Research Conference
(8th International Multidisciplinary Engineering Research Conference)

Research Presentations

- Mixed Reality based Multi-Agent Robotics Framework for Artificial Swarm Intelligence Experiments.*** March 2022
Poster presented at: Peradeniya University Research Excellence Showcase 2022
Dilshani Karunarathna, Nuwan Jaliyagoda, Isuru Nawinne, Roshan Ragel.
- Mixed Reality Environment for Swarm Robotics Simulations*** July 2021
ESCaPe 2021 Online Project Symposium
Dilshani Karunarathna, Nuwan Jaliyagoda, Ganindu Jayalath

Research Projects

- Dynamic Environment Setup using Swarm of Mobile Robots*** March 2022– Present
Introducing obstacle bots for a swarm robotic arena which is a part of a swarm robots platform project
- Self-Directed Learning Readiness and degree of stress among school and university students*** Oct 2021 - Present
Identify aspects of learning patterns of students and to introduce an age appropriate education program to inculcate SDL (Self Directed Learning) amongst them.

Projects

- Zero Trash*** 2020
A communication platform between users and garbage collectors to reduce waste collection costs and assist in the recycling process.
- Traffic Sign Net*** 2020
This system detects sign from the images to locate exactly traffic sign regions, and classifies each traffic sign into a corresponding class.
- A GUI for Controlling and Supervising Multiple Robots Remotely*** 2019
A GUI platform where a user can give commands which are to be followed by ground units in a remote location.
- Pera Knowledge Hub*** 2019
A web portal to upload and retrieve research papers, project reports, thesis done in the University of Peradeniya.
- Real-Time Vehicle Identification System*** 2018
Detect the registration number of vehicles using camera images and automate the ticketing method at Highway toll booths.
- The Simple As Possible (SAP) – I*** 2018
A computer with basic necessities using discrete logic ICs.

Awards

- **Best Research Paper** under Big Data, Machine Learning, and Cloud Computing at Moratuwa Engineering Research Conference 2022
- **Best Research Presentation Award** - ESCaPe 2021 Online Project Symposium 2021
- **First place** in Environment and Sustainability Category - ACES Hackathon 2019
- **First place** - PreXtreme (UoP) 2019
- **Country Rank: 21 Global Rank: 436** - IEEEExtreme 13.0 2019
- **Country Rank: 38 Global Rank: 499** - IEEEExtreme 12.0 2018
- **Fourth place** - Let Me Hack v2.0 2020
- **Rank: 13** - ACES Coders v8.0 2019
- **Rank: 18** - ACES Coders v7.0 2018
- **Country Rank: 24** - Google Hash Code 2019
- **All Island Finalists** - TADHACK 2018
- **Finalists** - Sri Lanka Robotics Challenge 2018
- **Finalists** - XbotiX Robotics Competition 2018

Certifications

- Introduction to Augmented Reality and AR Core, Google AR & VR - Credentials: [FYQ4SDG2596Z](#) 2022
- Introduction to Big Data and Hadoop Course, Bangladesh Research and Education Network (BdREN) - Credentials: [fDLuDCf-DLE4-2132](#) 2020
- Data Center Virtualization and Cloud Computing Infrastructure - Bangladesh Research and Education Network (BdREN) - Credentials: [fDLuDCf-DLE5-2344](#) 2020
- AWS Fundamentals: Going Cloud-Native, Amazon Web Services - Credentials: [BT7ULEWL3M67](#) 2020
- Google Cloud Platform Fundamentals: Core Infrastructure, Google Cloud - Credentials: [2K6MB4MJ4KX4](#) 2020
- Server-side Development with NodeJS, Express and MongoDB, The Hong Kong University of Science and Technology - Credentials: [9AQJALJL45FB](#) 2020
- Front-End Web Development with React, The Hong Kong University of Science and Technology - Credentials: [6D4K4CP9QKY8](#) 2020
- Neural Networks and Deep Learning, DeepLearning.AI - Credentials: [R5RM43YJPFT2](#) 2020

Extracurricular Activities

- Volunteer of Nenathambara Project 2021 - Present
- Editor of [Peradeniya Engineering Faculty Alumni Association \(PEFAA\)](#) Newsletter 2022
- Writer of [Association of Computer Engineering Students \(ACES\)](#) Outline 2019, the Newsletter 2019
- Member of the [Association of Computer Engineering Students \(ACES\)](#), University of Peradeniya 2018-2021
- Member of the [Ceylon Dramatic Society](#) and Music Society, University of Peradeniya 2016-2021
- Member of the School Western Band, Ferguson High School 2007-2015
- Member of the School Choir, Ferguson High School 2014-2015

Professional Affiliations

Student member of IEEE 2018-2021

Referees

Dr. Isuru Nawinne (Ph.D. UNSW)

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Department of Computer Engineering,
University of Peradeniya.
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Prof. Roshan Ragel (Ph.D. UNSW)

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