

RUSIRU THUSHARA

 thusharakart@gmail.com  372/1, Opalla, Govinna, Horana, Sri Lanka  +94 71 302 2214
 [portfolio](#)  [linkedin/rusiru-thushara](#)  [github/thusharakart](#)  [hackerrank/thusharakart](#)

PROFILE

A final year computer engineering undergraduate with national-level hackathon wins since 2019 and over 3 years of experience in software development. A quick learner with a strong fundamental knowledge in algorithmic programming, computer vision and a passion for finding simple, innovative solutions to complex real-world problems.

RESEARCH INTERESTS

- Computer Vision
- Self-Supervised Learning
- Open World
- Video Modeling
- Bio Informatics

EXPERIENCE

Wadduwage Lab, Harvard University, USA

Jan 2022 – Present

Remote Research Fellow - Full Time Internship

Developed deep learning-based object detection algorithms for DNA damage repair toxicology assays to detect gamma H2AX foci in cellular nuclei images and detecting and quantifying homologous recombination events in rare fluorescent mutant cells deep within the tissue of RaDR mice.

BioMedInfo Lab, University of North Florida, USA

Jan 2022 – Present

External Research Intern - Part Time

Developing deep learning based algorithms for Automated Protein Function Prediction on Human Phenotype Ontology.

SternX Engineering (Pvt) Limited

March 2021 – Present

Software Team Lead - Self Employed

Team leader of an eight-member software developer team who follows Scrum methodologies to deliver web and mobile applications for clients.

Instructor and Teaching Assistant | University of Peradeniya

2020 – Present

CO322 : Data Structures and Algorithms for 3rd year Computer Engineering undergraduates

CO324 : Network and Web Application Design for 3rd year Computer Engineering undergraduates

CO321 : Embedded Systems for 3rd year Computer Engineering undergraduates

CO253 : Programming and Networking for Electrical and Electronic Engineering undergraduates

GP106 : Computing for all 1st year undergraduates

EDUCATION

University of Peradeniya, Sri Lanka

Nov. 2017 – Present

Undergraduate in B.Sc. Engineering(Hons.) Computer Engineering **CGPA: 3.80/4.00**

SPARK X Professional Development Program | Spark Academy, Sri Lanka

Mar 2021 - Sep 2021

A 6-month industry readiness program for software engineers that includes technical modules like developing and delivering real-world applications, creative problem solving, and soft skills like empathy, communication, leadership, professionalism, and ethics. Earned a full scholarship during the selection process.

MOOCs

Deep Learning Specialization | deeplearning.ai | Coursera

2020

AI for Medicine Specialization | deeplearning.ai | Coursera

2020

Data Structures and Algorithms Specialization | UC San Diego | Coursera

2020

AWS Computer Vision: Getting started with GluonCV | AWS | Coursera

2020

HONORS & AWARDS

1st Place of Code Squad 3.0 (of 150+ teams) 6 hour competitive programming competition for university undergraduates in Sri Lanka.	Nov. 2022
2nd Runner up of MoraXtreme 7.0 (of 180+ teams) 12 hour competitive programming competition for university undergraduates in Sri Lanka.	Oct. 2022
5th National rank of IEEEExtreme 16.0 (of 6300+ global teams) 24 hour competitive programming competition for university undergraduates worldwide.	Oct. 2022
1st Runner up of MoraXtreme 6.0 (of 180+ teams) 12 hour competitive programming competition for university undergraduates in Sri Lanka.	Oct. 2021
1st Runner up of Douthan 1.0 (of 80+ teams) 12 hour competitive programming competition for university undergraduates in Sri Lanka.	Feb. 2021
208th world rank of IEEEExtreme 15.0 (of 5500+ global teams) 24 hour competitive programming competition for university undergraduates worldwide.	Oct. 2021
1st, 2nd, 1st Country Rank in Hack the Interview IV,V,VI (Asia Pacific) 60 hours competitive coding contest on hackerrank Placed 1st, 2nd, 1st country rank and 88/4353, 343/3077, 195/2530 respectively in Asia Pacific region	2020
2nd Runner up of HackDown 2020 (of 200+ teams) Competitive programming competition	Apr. 2020
2nd Runner up of hackStat 2.0 (of 90+ teams) Competition in data analysis and prediction on an insurance data set.	Oct. 2019
2nd Runner up of UoJCoders v1.0 (of 100+ teams) Competitive programming competition for university undergraduates in Sri Lanka.	March 2019
Top 20 National rank of IEEEExtreme 14.0 (of 2000+ global teams) 24 hour competitive programming competition for university undergraduates worldwide.	Oct. 2020
1680th global rank of Facebook Hacker Cup 2020 (of 32500+ global participants)	July 2020
Top 20 country rank of Google Code Jam, Hash Code, Kick Start	2019 - 2020
Gold Medal in Sri Lankan Physics Olympiad National Rank - 2nd, Score : 96/100 An annual competition held among high school students to select delegations for the APhO and IPhO.	2016

PROJECTS

Open World Object Detection and Discovery Final Year Thesis Project Advisors - Prof. Salman Khan, Prof. Roshan Ragel, Eng. Gihan Jayatilake <ul style="list-style-type: none">Investigation of self-supervised, contrastive learning approaches on open-world object detection for unknown object clustering.Usage of Vision Transformers for object detection with incremental learning.	2022 - Present
Deep Learning based Algorithms for Gamma H2AX Foci Detection and Analysis Advisors - Dr. Dushan N. Wadduwage, Prof. Bevin P. Engelward <ul style="list-style-type: none">Investigation on leveraging deep learning approaches for detecting and quantifying homologous recombination events in rare fluorescent mutant cells deep within the tissue of RaDR miceUsage of deep learning architectures for object detection, classification, and segmentation	2022 - Present
Protein Function Prediction with Human Phenotype Ontology Advisors - Prof. Indika Kahanda <ul style="list-style-type: none">Exploring deep learning approaches for categorize human abnormal phenotypes and their semantic relationships.Usage of Graph Transformer Networks(GTNs) for predicting HPO annotations of human protein.	2022 - Present

Prediction of Depths, Normals, and Surface Curvature from RGB Images using CNNs 2021

Advisors - Dr. Upul Jayasinghe, Eng. Sampath Deegalla

- Applying deep neural networks for estimating the depth map, surface normals, and surface curvature from RGB images.

Fuzzy Based Recommendation System for Research Area Selection 2021

Advisors - Dr. Upul Jayasinghe

- Developed a fuzzy-based recommendation system that suggests suitable research areas for students depending on the skills and interests of the student and the scope of the research area of the supervisors.

Swarm Robots Platform 2021

Obstacle bots that are localized with an overhead camera setup with the capability of positioning themselves without collisions forming challenging patterns.

Technologies: [Django](#), [OpenCV](#), [Numpy](#), [Three.js](#), [CSS](#), [HTML](#), [MQTT](#), [GRPC](#)

Techniques: [Stochastic gradient descent](#), [PID](#), [Image processing](#), [Encryption](#)

National Covid 19 Management System 2021

Full-stack web application showcasing country level, district level, hospital level, and overall patient statistics of daily Covid-19 updates and the patient management system.

Technologies: [Java](#), [Spring Boot](#), [Spring Data JPA](#), [Hibernate](#), [Spring Security](#), [React](#), [PostgreSQL](#)

Airport Ticket Booking System 2020

Web application and Mobile Application with a Database Management System for passengers and airports.

Technologies: [Dart](#), [MySQL](#), [PHP](#), [HTML](#), [CSS](#)

Crossword Puzzle Game 2021

An instant game developed for Facebook focusing children where they can select and solve a crossword puzzle.

Technologies: [React.js](#)

TECHNICAL STRENGTHS

Languages	Python, Java, C/C++, JavaScript	Modeling	PyTorch, Scikit-Learn, NumPy, Pandas
Mobile Development	Native Android, Flutter	Frontend	Reactjs, Bootstrap, HTML/CSS
Databases	MySQL, PostgreSQL, MongoDB	Backend	Spring Boot, Nodejs, Expressjs, Django

EXTRA CURRICULAR

Teaching Data Structures and algorithms with Hackers' Club for all undergraduates at UoP 2020

Creating coding problems for five [HackerRank programming competitions](#) of UoP 2020

Volunteer teaching | Maths, Science and English at Omaththa College, Mathugama 2019 - 2020

Captain | Main Chess Team, Taxila Central College, Horana, Sri Lanka 2008 - 2016

Have won multiple achievements including 1st runner-up in district level

Senior House Captain | Taxila Central College, Horana, Sri Lanka 2015

REFERENCE

Dr. Dushan N. Wadduwage wadduwage@fas.harvard.edu
Ph.D. (NUS), John Harvard Distinguished Science Fellow,
Center for Advanced Imaging, Harvard University,
Massachusetts Hall, Cambridge, MA 02138, USA
+1 (857) 253-1083

Prof. Roshan Ragel roshanr@pdn.ac.lk
Head of Dept. of Computer Engineering,
Faculty of Engineering, University of Peradeniya,
Peradeniya, Sri Lanka.
+94 (77) 385-7755