Suren Sritharan

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EDUCATION

M.Sc. Informatics (Computer Science)   Oct 2021 - present
Technical University of Munich

B.Sc. Engineering (Specializing in Computer Engineering)   Jan 2016 - July 2020
University of Peradeniya - GPA of 4.0/4.0 (Top of my class of 400+ students)

G.C.E Advanced level (Physical Science)   Apr 2012 - Aug 2014
Trinity College Kandy - 3A with a Z-score of 2.514 (99th country rank)

EXPERIENCE

Student Research Assistant (Hiwi) at DAML group, TUM, Germany   Oct 2022 - present
Uncertainty quantification in Graph Neural Networks

Student Research Assistant (Hiwi) at Providentia++ project, TUM, Germany   Dec 2021 - Aug 2022
Application-oriented research on computer vision to create a digital twin of traffic.

Research Assistant at Sri Lanka Technological Campus, Sri Lanka   Aug 2020 - Sep 2021
Research on image enhancement under varying illumination conditions.

Volunteer Instructor at University of Peradeniya, Sri Lanka   Jan 2020 - Jun 2020
Instructor for various undergraduate courses in computer science/engineering.

Autonomous wireless network research intern, Nokia Bell Labs, Belgium   Feb 2019 - Aug 2019
Research on the limitations of machine learning models for wireless 5G networks and beyond.

PUBLICATIONS

PEER-REVIEWED JOURNAL

[1] **S. Sritharan**, H. Weligampola, and H. Gacanin, "A Study on Deep Learning for Latency Constraint Applications in Beyond 5G Wireless Systems" in *IEEE Access*, vol. 8, pp. 218037-218061, 2020.
`https://ieeexplore.ieee.org/document/9268052`

[2] G.Jayatilaka, J.Hassan, U.Marikkar, R.Perera, **S.Sritharan**, H.Weligampola, M.Ekanayake, R.Godaliyadda, P.Ekanayake, V.Herath, D.Godaliyadda, A.Rathnayake, S.Dharmaratne, J.Ekanayake. "Use of Artificial Intelligence on spatio-temporal data to generate insights during COVID-19 pandemic: A Review".
preprint: `https://doi.org/10.1101/2020.11.22.20232959`

[3] G.Jayatilaka, J.Hassan, **S.Sritharan**, J.Senanayaka, H.Weligampola, R.Godaliyadda, P.Ekanayake, V.Herath, J.Ekanayake, S.Dharmaratne, "Holistic Interpretation of Public Scenes Using Computer Vision and Temporal Graphs to Identify Social Distancing Violations."
preprint: `https://arxiv.org/abs/2112.06428`

INTERNATIONAL CONFERENCE

[4] H.S. Weligampola, G.C. Jayatilaka, **S. Sritharan**, P. Ekanayaka, R. Ragel, and V. Herath, R. Godaliyadda, "An Optical physics inspired CNN approach for intrinsic image decomposition", IEEE International Conference on Image Processing (ICIP), 2021.
`https://tesla.ce.pdn.ac.lk/students/gihan/publications/iid-2021.pdf`

[5] G.C. Jayatilaka*, H.S. Weligampola*, **S. Sritharan***, P. Pathmanathan, R. Ragel, and I. Nawinne."Non-contact Infant Sleep Apnea Detection" 14th IEEE International Conference on Industrial and Information Systems (ICIIS), 2019. `https://ieeexplore.ieee.org/document/9063269`

[6] H.S. Weligampola, G.C. Jayatilaka, **S. Sritharan**, R. Godaliyadda, P. Ekanayaka, R. Ragel, and V. Herath, "A Retinex Based GAN Pipeline to Utilize Paired and Unpaired Datasets for Enhancing Low Light Images", Moratuwa Engineering Research Conference (MERCon), 2020. `https://ieeexplore.ieee.org/document/9185373`

PROJECTS

Image level anomaly detection 2022
Identifying anomalies in the production process of heat sinks at Siemens Gerätewerk Erlangen (GWE).

Monocular 3D vehicle detection 2022
Identifying position and pose of vehicles from single monocular images.

Road feature extraction for automatic camera calibration 2022
Detect and match road markings from A9 dataset for camera calibration.

Crowd risk assessment through CCTV to combat COVID-19 spread in Sri Lanka 2020
Assessing risk levels based on social distancing, contact detection, and mask identification.

Low light image enhancement and interpretation 2019
Enhancing the illumination of low light images for robustness.

Deep learning for resource allocation in wireless networks 2019
Study of the limitation of supervised, unsupervised and reinforcement learning for wireless applications.

Novel finite element based structural analysis 2018
Optimizing novel structural analysis algorithm to improve efficiency and memory consumption.

Infant sleep apnea detection 2018
Vision-based model for detection of sleep apnea in infants.

Foreground estimation in dynamic background 2017
Pipeline for detection of foreground in dynamic background containing aquatic scenes.

CPU design on FPGA using VHDL 2017
Implementation of CPU and Memory for specific ISA using Verilog.

Identifying earth resources using hyperspectral imagery 2017
Software that predicts the existence of a given mineral by analyzing HSI images.

Inventory management system 2017
Decision support system for inventory management based deterministic models.

Brain signal classification 2016
Classifier to identify type of brain signals based on colour perceptions using OpenBCI board.

TECHNICAL SKILLS

- **Programming Languages**: Python, Java, C, C++, R, MATLAB, Javascript

- **ML Tools**: TensorFlow, PyTorch, MLflow, ZenML, Weka

- **Web Development**: HTML, CSS, Django, NodeJS

- **Other tools and Technologies**: Docker, ROS, Nginx, MySQL, Verilog HDL, Assembly programming, Android development, Arduino

AWARDS AND RECOGNITION

INTERNATIONAL LEVEL

Huawei - Seeds for the Future   2019
   Represented Sri Lanka at the Huawei Seeds for the Future program held in China.

IEEEXtreme 13.0 - 2nd Country Rank, 64th World Rank   2019

IEEEXtreme 12.0 - 2nd Country Rank, 79th World Rank   2018

IEEEXtreme 11.0 - 1st Country Rank, 113th World Rank   2017
   24-hour Worldwide competitive programming competition organized by IEEE

Google Code Jam - Qualified to R1 (with top country ranks at qualifications)   2017, 2018, 2019
   Worldwide competitive programming competition organized by Google.

CIMA OCS exams - 1st Country rank, 5th World rank   2015
   An exam conducted by CIMA in which the examinee must show their financial and management skills in
   a virtual business environment.

NATIONAL LEVEL

Migara Ratnatunga Trust Award for Industrial Training   2020
   Awarded by Institution of Engineers, Sri Lanka for exceptional performance during internship.

StatHack 2.0 - 1st place   2019
   Nationwide Inter-university statistical data analytics competition organized by University of Colombo.

ACES Coders v7.0 - 1st place   2018
   12-hour nationwide Inter-university programming competition with over 300 groups.

Humanitarian Product Competition: IEEE R10 - 1st place   2018
   Product development competition organized by IEEE for Asia Pacific region (IEEE region 10).

Brainstorm - 2nd place   2018
   Biomedical competition organized by IEEE EMBS section, University of Moratuwa

Dialog NBIOT Hackathon - 2nd place   2018
   1st NBIOT based hackathon in Sri Lanka with 10 chosen teams organized by Dialog Axiata.

ACES Hackathon 2017 - Best Software   2017
   An Inter-Faculty Hackathon organized by Faculty of Engineering, University of Peradeniya.

Mahapola Higher Education Merit Scholarship   2016
   Merit based scholarship awarded by government of Sri Lanka for performance at GCE A/L examination.

UNIVERSITY LEVEL

C. A. Hewavitharana Prize for Best Performance in Engineering   2020
   Best academic performance in Engineering (Top of my class of 400+ students with a perfect GPA).

IFS Gold Medal for Excellence in Computer Engineering   2020
   Best performance in Computer Engineering specialization program.

E. F. Bartholomeusz Prize for Engineering Mathematics   2020
   Best performance in Engineering Mathematics courses.

Prof. T.D.M.A. Samuel Prize for Enthusiasm and Excellence in Engineering Mathematics   2020
   Best performance in Engineering Mathematics elective courses.

Prof. E. F. Bartholomeusz Endowment awards for Projects   2020
   Awarded for the best the Final Year Project.