



ISURI DEVINDI

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| [Syncfusion blog](https://syncfusion.blog)

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ABOUT ME

I am a 4th year computer engineering undergraduate, interested in **neuromorphic computing, computer vision, machine learning, deep learning**, and **developing low complexity algorithms**.

EDUCATION

University of Peradeniya 2018 Nov - Present

BSc.Eng(Hons.) in Computer Engineering

Field Rank - **1 / 60**,

GPA - 3.96 / 4.00

Hillwood College, Kandy 2004 - 2017

G.C.E. Advanced Level Examination

District Rank - **6**, National Rank - **113**

Z-Score: 2.2768

ACHIEVEMENTS

NBQSA (National ICT Awards) 2023

Bronze Award in Tertiary Student Projects (Technology) (Out of 46 teams)

IEEEExtreme 14.0 2020

24 hour global algorithmic programming competition
Country Rank - 68, Global Rank - 724 (Out of 2000+ teams)

Hacktitude 2022

Inter-university hackathon organized by 99x
Rank - 32 (Out of 200+ teams)

Hackfest 2022

Inter-university hackathon organized by ACES,
University of Peradeniya
Rank (Healthcare category) - 1 (Out of top 20 teams)

EXPERIENCE

Visiting research assistant supervised by Prof. Archan Misra 2023 Jan - 2023 May

Pervasive Sensing & Systems Labs, School of Computing & Information Systems, Singapore Management University

- Exploring spatiotemporal compressive sensing techniques for event-based data fed into and processed by Spiking Neural Networks.

Casual Instructor

Department of Computer Engineering, University of Peradeniya

- **CO321: Embedded Systems** 2022 Oct- 2022 Dec
Supervised weekly 2hr long lab sessions on programming an ATmega328P microcontroller in C language.
- **CO322: Data Structures and Algorithms** 2022 Oct- 2022 Dec
Supervised weekly 2hr long lab sessions, preparing tutorials related to data structures and algorithms.
- **CO222: Programming Methodology** 2021 May- 2021 Sep
Supervised weekly 2hr long online lab sessions, created questions for online quizzes based on the C Language.

Technical article writer 2021 Feb - Present

[Medium blog](#) | [Syncfusion blog](#) | [Enlear Pvt. Ltd.](#)

PROJECTS

Oral Cancer Prediction System from White Light Images | Group |  2022 - Present

- A web-based tool that minimizes the delay of diagnosing high-risk oral cancer patients by incorporating an automated oral cancer prediction model trained on a white light image database derived from Sri Lankan population.
- Contribution:
 - Developing a segmentation model to extract the oral cavity region in an image.
 - Developing an ensemble machine learning model to predict oral cancer using multiple data sources such as images and risk factors.
- Technology: TensorFlow, Keras
- Techniques: **U-Net, DenseNet, XGBoost**

Low Complexity Algorithms for Arrhythmia Detection | Group |

2023 - Present

- A pre-packaged software solution containing a set of low-complexity algorithms for QRS-peak detection and ECG signal compression addressing the null-power consumption environments, along with a Spiking Neural Network implementation to classify ECG beats based on arrhythmia conditions.
- Technology: C, Python, snnTorch
- Techniques: **Leaky-boundary based QRS-peak detection, Quantization, Spiking Neural Networks**

Reconstructing highly degraded license plates | Group |

2022

- Demonstration of the efficacy of traditional image processing techniques to reconstruct highly degraded images of license plates obtained from CCTV footage, when the source of degradation is unknown.
- Technology: Python, OpenCV, EasyOCR
- Techniques: **Otsu thresholding, Morphological transformation, Contouring, Spatial and Frequency domain filtering and Degradation modeling.**

Remote proctoring system | Group |

2021 - Present

- A single device with video streaming facility which integrates the hardware and software components needed to conduct virtual proctoring of an examination in a university.
- Contribution: Designing a scalable web application for administrators of the university and proctors of examinations. Developing the hardware solution for the device using Raspberry Pi micro-controller.
- Technology: React.js, Express.js, MongoDB, Node.js
- Techniques: Handling and **synchronization** of API requests & responses with promised-based library **Axios**.

TECHNICAL SKILLS

Languages	Python, C/C++, Java, JavaScript, HTML/CSS, SQL, Verilog HDL, ARM Assembly Language
Libraries	Pytorch, snnTorch, TensorFlow, Keras, OpenCV, NumPy, Matplotlib, pandas
Frameworks	React.js, Express.js

EXTRA-CURRICULAR ACTIVITIES & LEADERSHIPS HELD

Member of the <u>Web Consultation team</u> of University of Peradeniya	2020 - Present
Secretary in IET on Campus of the University of Peradeniya	2022 - 2023
President of the Music Society of the University of Peradeniya	2021 - 2022

REFERENCES

Prof. Roshan G. Ragel | roshanr@eng.pdn.ac.lk

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