# Isuri Devindi

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I'm a 3<sup>rd</sup> year computer engineering undergraduate, currently seeking internship opportunities in the fields of **Computer Vision** and **Machine Learning**.

# EDUCATION

University of Peradeniya  BSc.Eng(Hons.) in Computer Engineering  Field Rank - 1/60, Batch Rank - 1/415	2018 Nov - Present <i>GPA:</i> <b>4.00/4.00</b>
Hillwood College, Kandy G.C.E. Advanced Level Examination District Rank - 6/2784, National Rank - 113/32075	2004 - 2017 Z-Score: 2.2768
CIMA Certificate level completion	2018
Fit-in-Deutsch 2 Passed with 73 marks (out of 80)	2014
Achievements	
<b>IEEEXtreme 14.0</b>   24 hour global algorithmic programming competition Country Rank - 68, Global Rank - 724 (Out of 2000+ teams)	2020
<b>Hacktitude</b>   An inter-university hackathon organized by the company 99x Rank - 32 (Out of 200+ teams)	2022
<b>Hackfest</b>   An inter-university hackathon organized by the University of Peradeniya $Rank\ (Healthcare\ category)\ -\ 1\ (Out\ of\ top\ 20\ teams)$	2022
<b>Hackdown</b>   An inter-university coding competition organized by IEEE WIE Student branch of University of Moratuwa, Sri Lanka Rank – 37 (Out of 100+ teams)	2019

# Projects

## Oral cavity region detection system | Group | 🔾 | 🔾

2022 - Present

- A web-based application that can be used to upload images of an oral cavity and segment the anatomical structures present in the image using a machine learning model.
- Contribution: Exploring the potential of U-Net and Mask R-CNN models in developing a machine learning solution to segment the oral cavity images.
- Technology: TensorFlow, Keras, React.js, Express.js, MongoDB, Node.js
- Techniques: U-Net, Mask R-CNN

# 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(Wiener Filter)

#### Remote proctoring system | Group | Q | Q |

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.

- 2022
- The combination of a lexer, parser, semantic analyzer, and code generator that can be used to compile programs written in the COOL programming language.
- Technology: C++
- Techniques: Utilization of concepts such as **Finite State Machines**, **Abstract Syntax Trees** and tools such as **Flex** and **Bison**, to convert COOL to MIPS assembly language.

# Database system for business to business trade | Group | •

2020

- A fully functional database to organize transactions between businesses with a user-friendly interface.
- Contribution: Developing the database
- Technology: MySQL, PHP, Django

## Tool to generate and display fractals | Individual | •

2020

- A tool to display two fractal sets: Mandelbrot and Julia set, according to user preferences.
- Technology: Java
- Techniques: Multi-threading, Synchronization Primitives

# 8-bit single cycle processor | Group | •

2020

- An 8-bit single cycle CPU with associated memory hierarchy. The processor includes an ALU, register file, control logic, forwarding unit, data memory, data cache, instruction memory and instruction cache.
- Technology: Verilog-HDL
- Techniques: RISC-V, Caching

#### EXPERIENCE

Technical article writer | Medium blog | Syncfusion blog | Enlear Pvt. Ltd.

2021 Feb - Present

# Casual Instructor | Department of Computer Engineering, University of Peradeniya

## CO253: Introduction to Programming and Networking

2021 Nov- 2022 Jan

Supervised weekly 2hr long online lab sessions based on C programming Language

#### CO222: Programming Methodology

2021 May- 2021 Sep

Supervised weekly 2hr long online lab sessions, created questions for online quizzes based on the C programming Language

## Technical Skills

Languages C, Python, Java, HTML/CSS, JavaScript, SQL, Verilog HDL, ARM Assembly Language

Frameworks React.js, Express.js

**Developer Tools** Git, Google Cloud Platform, VS Code

Libraries TensorFlow, Keras, OpenCV, NumPy, Matplotlib, pandas

# SOFT SKILLS

**Technical Writing**: Currently working as a technical writer at <u>Enlear Private Limited</u>, writing content related to software application development.

**Public Speaking**: Moderated several <u>virtual events</u> organized by IET On Campus University of Peradeniya and virtual and physical events organized by the Faculty of Engineering, University of Peradeniya.

# Extra-curricular Activities & Leaderships Held

Member of the Web Consultation team of University of Peradeniya	2020 - Present
Secretary in IET on Campus of the University of Peradeniya	2022 - Present
President of the Music Society of the University of Peradeniya	2021 - 2022
Member of the Rotaract club of the University of Peradeniya	2020 - Present
Member of the Dramatic Society of the University of Peradeniya	2020 - Present

## References

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

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