

# ISURI DEVINDI

Department of Computer Engineering, University of Peradeniya, Sri Lanka

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## **EDUCATION**

**University of Peradeniya** 

2018 Nov - Present

BSc.Eng(Hons.) in Computer Engineering Field Rank - 1/60, Batch Rank - 1/415

GPA-4.00/4.00

Hillwood College, Kandy 2004 - 2017

G.C.E. Advanced Level Examination District Rank - 6, National Rank - 113

**Z-Score**: 2.2768

**CIMA Certificate level completion** 

2018

2014

Fit-in-Deutsch 2

Passed with 73 marks (out of 80)

### **ABOUT ME**

I am a 3<sup>rd</sup> year computer engineering undergraduate, interested in all phases of software development from UI/UX designing to database management, and also computer vision and machine learning. I am currently seeking internship opportunities to enhance my skills.

## TECHNICAL SKILLS

Python, C/C++, Java, JavaScript,

HTML/CSS, SQL, Verilog HDL, Languages

ARM Assembly Language

**Frameworks** React.js, Express.js

TensorFlow, Keras, OpenCV, Libraries

NumPy, Matplotlib, pandas

## **ACHIEVEMENTS**

**IEEEXtreme 14.0** 24 hour global algorithmic programming competition

Country Rank - 68, Global Rank - 724 (Out of 2000+ teams)

**Hacktitude** | Inter-university hackathon organized by 99x

Rank - 32 (Out of 200+ teams)

**Hackfest** | Inter-university hackathon organized by ACES, University of Peradeniya

Rank (Healthcare category) - 1 (Out of top 20 teams)

Hackdown Inter-university coding competition organized by IEEE WIE Student branch of University of Moratuwa 2019

Rank - 37 (Out of 100+ teams)

## **PROJECTS**

## Oral cavity region detection system | Group |





2022 - Present

2020

2022

2022

- · 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 | (1)







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)







- · 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.

#### Compiler for COOL Language | Group |



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

### <u>Database system for business to business trade</u> | Group | 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 files, control logic, forwarding unit, data memory, data cache, instruction memory and instruction cache.
- Technology: Verilog-HDL
- Techniques: RISC-V, Caching

#### **EXPERIENCE**

#### **Technical article writer**

2021 Feb - Present

Medium blog | Syncfusion blog | Enlear Pvt. Ltd.

#### **Casual Instructor**

Department of Computer Engineering, University of Peradeniya

• CO322: Data Structures and Algorithms

2022 Oct- Present

Supervising weekly 2hr long lab sessions, preparing tutorials related to data structures and algorithms.

• 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.

## 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

2022 - Present

#### REFERENCES

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

Head of Department, Department of Computer Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka.

#### Dr. Isuru Nawinne isurunawinne@eng.pdn.ac.lk

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