ISURI DEVINDI

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ABOUT ME

I am a 3rd 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.

EDUCATION

University of Peradeniya 2018 Nov - Present
BSc.Eng(Hons.) in Computer Engineering
Field Rank - **1 / 60**, Batch Rank - **1 / 415**
GPA - 3.95/ 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

Fit-in-Deutsch 2 2014
Passed with 73 marks (out of 80)

ACHIEVEMENTS

IEEEXtreme 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)

Hackdown 2019
Inter-university coding competition organized by IEEE WIE Student branch of University of Moratuwa
Rank - 37 (Out of 100+ teams)

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.**

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.**

Compiler for COOL Language | **Group** | 2022

- A lexer, parser, semantic analyzer, and code generator that is used to compile 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 files, control logic, forwarding unit, data memory, data cache, instruction memory and instruction cache.
- Technology: Verilog-HDL
- Techniques: **RISC-V, Caching**

EXPERIENCE

Visiting research student 2023 Jan - Present

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

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 Language.

TECHNICAL SKILLS

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

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***
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Department of Computer Engineering,
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