Isuri Devindi

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Education

University of Peradeniya 2018 Nov - Present
3rd year undergraduate in Computer Engineering *GPA: **4.00/4.00***

Hillwood College, Kandy 2004 - 2017
G.C.E. Advanced Level Examination *Z-Score: 2.2768*
District Rank - 6, National Rank - 113

Achievements

IEEEXtreme 14.0 | 24 hour global algorithmic programming competition 2020
Country Rank – 68, Global Rank – 724 (Out of 2000+ teams)

Hacktitude | An inter-university hackathon organized by the company 99x 2022
Rank – 32 (Out of 200+ teams)

Hackfest | An inter-university hackathon organized by the University of Peradeniya 2022
Rank (Healthcare category) – 1 (Out of top 20 teams)

Hackdown | An inter-university coding competition organized by
IEEE WIE Student branch of University of Moratuwa, Sri Lanka 2019
Rank – 37 (Out of 100+ teams)

CIMA Certificate level completion 2018

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

Projects

Oral Cavity Region Detection System | project page | repository 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: Explored 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 | report | video | colab 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 | project page | repository | video 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 | repository 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 | repository 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 | repository 2020

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

8-bit single cycle processor | *Verilog-HDL* 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: Java
- Techniques: **RISC-V, Caching**

Experience

Technical article writer | **Medium blog** | **Syncfusion blog** 2021 Feb - Present
Enlear Private Limited

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 Enlear Private Limited, writing content related to software application development.
- Public Speaking: Moderated several virtual events 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

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