

SAVINDU WANNIGAMA

Engineering Undergraduate

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EDUCATION

University of Peradeniya

BSc. Engineering (Hons.) in Computer Engineering

November, 2018 - Present

G.P.A: 4.0/4.0 | Rank: 1/415

Trinity College, Kandy

G.C.E Advanced Level Examinations

2008 - 2017

Grades: 3As | Z-Score: 2.6383

National Rank: 6/ 32075 | Provincial Rank: 1/2784

WORK EXPERIENCE

Intern

Dec, 2022 - Present

CyAmast

- Member of a research team which contributed to research which focuses on developing deterministic models to identify assets and associated risk through passive network data analysis.

Teaching Assistant

Sep, 2021 - Nov, 2022

C0322-2022: Data Structures and Algorithms

C0321-2022: Embedded Systems

C0224-2021: Computer Architecture

C022: Programming Methodology

Department of Computer Engineering, University of Peradeniya

- Supervise weekly lab sessions, create questions for tutorials.
- Supervise and mark weekly lab sessions.
- Conducted tutorial sessions marking schemes for labs, supervised online lab session.
- Invigilated online quizzes every other week.
- One-on-one sessions with students to tutor them on subject matter

Member of the Web Consultation Team

Aug, 2021 - Present

University of Peradeniya

- A team of engineering undergraduates volunteering to provide web consultation services to make the digital presence of the University of Peradeniya more impressive and optimized.
- The team is supervised by Prof. Roshan G. Ragel and backed by recent graduates of Department of Computer Engineering, University of Peradeniya.

PROJECTS

Sobriety Detection using Mobile Phone Gyroscope Data |

ML, DL, Python, TensorFlow, JavaScript, No-SQL, MQTT

Personal Contributions:

- Extracted practicable features from raw time series gyroscope readings using data segmentation and windowing, and used Principal Component Analysis (PCA), Feature Importance etc. to select the minimal subset of features for accurate performance of the ML models.
- Built an API to be used by mobile phones to post streams of real time gyroscopic readings, and get the classifier results.

Remote Proctoring System |

JavaScript, Node, No-SQL, Raspberry Pi, Linux, Jitsi-Meet

Personal Contributions:

- Designed and built a proctoring device based on a Raspberry Pi micro controller which acted as a bridge for a live video stream between all the students and a set of proctors. (Jitsi Meet was used to integrate live video streaming into the web and desktop applications of the system.)
- Designed and built a system to store and handle exams and courses of a set of students registered in a system which implemented a scalable MongoDB database and a Node based server running on a Linux server to serve requests from several users and store and auto update details about exams, courses, students etc

Reconstructing Highly Degraded License Plates Images |

Python, OpenCV

Personal Contributions:

- Demonstrated how traditional image processing techniques such as Otsu thresholding, morphological transformation, contouring, spatial and frequency domain filtering, and degradation modeling can be used to restore highly distorted images along with the limitations of the traditional image processing theoretical techniques.

8-Bit Single Cycle Processor |

Verilog-HDL

- Designed and prototyped an 8-bit single cycle CPU with associated memory hierarchy, which includes an arithmetic logic unit, register file, control logic, forwarding unit, data memory, data cache, instruction memory and instruction cache.

Applet to generate and display fractals |

Java, Multi-Threading

- Built a simple software to generate and display two fractal sets; Mandelbrot and Julia, according to user preferences.



ACHIEVEMENTS

IEEE Xtreme 16.0 (International)

A 24 hour algorithmic programming competition organized by IEEE

- National Rank - 34/311
- Global Rank - 768/6373

October, 2022

IEEE Xtreme 14.0 (International)

A 24 hour algorithmic programming competition organized by IEEE

- National Rank - 32/180
- Global Rank - 311/2155

October, 2020

Hacktitude (National)

A 12 hour inter-university hackathon organized by 99x Technology (Pvt) Ltd.

- National Rank - 32/180 (out of 200+ teams)

January, 2020

Hackdown (National)

A 3 hour inter-university coding competition organized by IEEE WIE

- Rank - 35 (Out of 200+ teams)

January, 2020

Dialog Merit Scholarship (National)

Granted by Dialog Axiata PLC

- Recipient of a scholarship granted to the top performing student from each district in the Physical Sciences stream at the G.C.E. Advanced Level Examinations.

November, 2018 - Present



RELEVANT COURSEWORK

- Programming Methodology
- Discrete Mathematics
- Probability and Statistics
- Ordinary Differential Equations
- Software Construction
- Database Systems
- Calculus II
- Numerical Methods
- Computer and Network Security
- Network and Web Application Design
- Data Structures and Algorithms
- Operating Systems
- Software Engineering
- Image Processing
- Machine Learning and Data Mining
- Signal Processing
- Computer Communication Network I
- Computer Communication Network II



TECHNICAL SKILLS

Languages:

C, Java, Python, JavaScript, SQL, NoSQL, Verilog HDL, ARM Assembly

Developer Tools:

Git, VS Code, Eclipse, Docker, Google Cloud Platform, Node

Technologies/ Frameworks:

Linux, GitHub, ExpressJS



LEADERSHIP/ EXTRA-CURRICULAR ACTIVITIES

Sports

Tennis

- Captain of the school Tennis team (2016/2017)
- Member of the university Tennis team (2019 – Present)
- University half-colors in Tennis (2019)

Other

Extra-curricular Activities

- Member of several clubs and societies in University and school including the Music Society and the Ceylon Dramatic Society of the University of Peradeniya, and the Cadet Band and the Science Society of Trinity College Kandy.

REFERENCES

Prof. Roshan Ragel

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



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