THAMISH WANDURAGALA

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

+94 77 323 7509 | Kandy, Sri Lanka | thamish777@gmail.com |
linkedin.com/in/thamish-wanduragala | github.com/Thamish99

ABOUT ME

I am a recent graduate and university instructor with a passion for computer architecture, hardware design, and low-level programming. My goal is to contribute to cutting-edge innovation in these fields to help shape the future of computing performance.

EDUCATION

University of Peradeniya, Sri Lanka **2019 November - 2024 August**

- Bachelor of the Science of Engineering Honours in Computer Engineering GPA: 3.95/4.00

Trinity College, Kandy, Sri Lanka **2004 - 2018**

- G.C.E. Advanced Level (2018) - 2As, 1B in Physical Science Stream.
- G.C.E. Ordinary Level (2015) - 8As, 1B (English Literature)

EXPERIENCE

Temporary Instructor **2024 October - Present**

- Department of Computer Engineering, Faculty of Engineering, University of Peradeniya.

Visiting Research Assistant **2023 August - 2024 January**

- Supervised by Prof. Yuen Chau at Engineering Product Development Pillar, Singapore University of Technology and Design (SUTD).
- Contributed to a 6G Research and Development Project based on developing Wireless Communication Devices in collaboration with Nanyang Technological University (NTU).

Casual Instructor **2022 October - 2024 August**

- Supervised weekly sessions for 2nd, 3rd year undergraduates of Department of Computer Engineering, University of Peradeniya for course modules,
  * Operating Systems, Signal Processing, Programming Methodology (Based on C Programming Language), Digital Design (Based on circuit building.)

Voluntary **2020 May - Present**

- Project Nenathambara

  Contributed to making a new syllabus for Python programming language beginners and delivered the content to students in schools in Sri Lanka.

PROJECTS

Neuromorphic Architecture for Spiking Neural Networks *(Group)* | *Verilog* **2023 December - Present**

- A neuromorphic accelerator architecture that is designed to run smaller scale Spiking Neural Networks (SNNs), using a network of nodes optimised for high speeds and low power consumption.
- The accelerator was supported by a RISC-V CPU accommodating general purpose tasks and custom interfacing for the accelerator.
- The synchronous accelerator supported 32-bit arithmetic operations, enhancing the inferencing capabilities of the SNN. Testing was conducted on an Altera FPGA, and performance was evaluated using Synopsys tools, including PrimePower and PrimeTime.
- Contributed to designing the architecture and testing its performance.

Automated Road-Rule Detector *(Group)* | *Python, Flutter, Firebase, Nodejs* **2022 October - 2023 January**

- A hardware device based on Raspberry Pi 3 as the microprocessor which is able to detect road rule breaking severity with an app to visualize collected data.
- Contributed to the Front-End and Hardware.

2-bit Intelligent Reflective Surface Prototype *(Group)* | *Python, Matlab* **2023 August - 2024 January**

- A 6G Wireless Communication research project focused on Intelligent Reflective Surfaces (IRS).
- Contributed to making the hardware controller of the IRS.

8-bit Single Cycle Processor *(Group)* | *Verilog* **2021 November - 2022 March**

- An 8- bit single cycle processor with an ALU, register file, control logic, data memory, data cache, instruction memory and instruction cache. A memory hierarchy too was built.

ML-based Patient Diagnosis/Care *(Group)* | *Python, Nodejs, Flutter* **2023 May - Present**

- An app designed to get symptoms from a user and provide insights and suggestions on potential risks, recommended eating habits and recommendations on type of medical doctor to visit.
- Contributed to the Machine Learning model and the Back-End.

Student Results Management System *(Group)* | *Java, Android Studio* **2021 November - 2022 March**

- An application developed for undergraduates to keep track of their academic performance, progress.
- Contributed to the Back-End of the system.

Smart Inventory Management System *(Group)* | *Laravel with php, blade, MYSQL* **2022 May - August**

- Introduced a resource scheduling system to manage resources in the MakerSpace Lab (Department of Computer Engineering, University of Peradeniya).

Database System at University Gymnasium *(Group)* | *MySQL, Php* **2021 November - 2022 March**

- A fully functional database to organize reservations, cancellations, borrowings and misplacements of equipment at the university gym.

ACHIEVEMENTS / EXTRACURRICULAR

Global Robotics Games *(Group)* **November 2023**

* 1st place in University Category - Three day competition based on developing robotic controllers for Transformer Robot Soccer League.

Aces Hackathon 2023 *(Group)* **June 2023**

* 2nd place in "Other" category - Two day competition with 40+ participating teams.

Aces Pre-Coders 2022 *(Group)* **August 2021**

* Finalists - A 6 hour coding competition with 70+ participating teams.

Offices Held

* President, Ceylon University Dramatic Society, University of Peradeniya. (2022-2023)
* Secretary, Aviation Society, Trinity College, Kandy. (2017-2018)

Sports

* Baseball Under 19, 17, 15, 13 - Trinity College, Kandy. (2011 - 2017)

SKILLS

Hardware Programming: Verilog, ARM Assembly, Quartus, Primetime
Programming Languages: Python, Java, C, C#

Mobile Development: Flutter, Native Android

Front End: HTML/CSS, Bootstrap

Back End: Spring Boot, Nodejs

Data Modeling:Numpy, Pandas, scipy, sklearn

Databases: MySQL, FireBase

Version Controlling: Git

REFEREES

Dr. Isuru Nawinne | **isurunawinne@eng.pdn.ac.lk**
Senior Lecturer,
Faculty of Engineering, University of Peradeniya,
Peradeniya, Sri Lanka.
+94 71 511 7771

Dr. Asitha Bandaranayake | **asithab@eng.pdn.ac.lk**
Senior Lecturer,
Faculty of Engineering, University of Peradeniya,
Peradeniya, Sri Lanka.
+94 81 239 3470