

Ishan Fernando

Computer Engineering Undergraduate

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PROFILE

Motivated Computer Engineering student at the University of Peradeniya, currently in the third year. Passionate about automation, full-stack development, and optimizing processes. Skilled in leveraging technology to streamline tasks and build efficient systems. Strong foundation in computer engineering principles, with expertise in backend development and frontend design.

PROJECTS

people.ce.pdn.ac.lk

[Jekyll, Bootstrap, Python3, HTML, Javascript]

NOV 2021 - PRESENT

- Centralized website for portfolio management of staff and students in our department.
- Created Python scripts to parse the data and generate Jekyll files for seamless website updates.
- GitHub Actions were used to schedule script runs.

[Commits by me] [Python scripts]

javaWorker

[Java, Maven, Python3, Node.js, Firebase Realtime DB, ThreadPoolExecutor]

2021 (CLOSED SOURCE)

- Versatile automation framework that automates tasks like website scraping, text monitoring, email notifications, and scheduled tasks
- Main usage is to scrape our LMS and send notifications on a discord server when new content is detected
- Backups my important files to AWS S3, Google Drive, and OneDrive
- State management is handled through Firebase Realtime DB

slideExtractor

[Python3, OpenCV, ThreadPoolExecutor]

2022

- A project aimed at extracting slides from lecture videos.
- The original implementation was slow due to being single-threaded.
- Introduced multithreading to enhance its speed and efficiency.
- This resulted in a significantly faster slide extraction process (about 13x)

Smart Inventory Management System

[PHP, Laravel, Livewire]

2022

- Implemented tracking for consumable items
- Implemented Livewire tables for improved website functionality.

[Commits by me]

Weather Analytics and Travel Path Guider

[Flutter, Node.js, Express.js, MongoDB, Arduino IDE, MQTT, Azure]

2022

- A system that provides weather information and path guidance for remote travel destinations.
- Developed the backend and hardware device.

[Commits by me]

Collect all A/L results from doanets.lk

[Python3, ThreadPoolExecutor, State-Machine]

2023 (CLOSED SOURCE)

- A script to efficiently collect A/L exam results from doanets.lk
- Using ThreadPoolExecutors, I improved the speed of the process. Implemented a state machine to optimize and expedite the retrieval by avoiding unnecessary index numbers.
- Unfortunately, the project is no longer feasible due to the website's implementation of a captcha code to prevent automated access.

EDUCATION

2019 - NOW

BSc Eng. (Hons) in Computer Engineering

FACULTY OF ENGINEERING

3rd year - Current GPA **3.96/4**

University of Peradeniya

2005 - 2018

A/L - Physical Science

2 A (MATHS, PHYSICS) 1 B (CHEMISTRY)

Z-score - 1.7794

Maris Stella College - Negombo

ACHIEVEMENTS

GROUP

ACES Coders V9.0

A 12-hour coding competition

8th place out of 100+

GROUP

ACES PreCoders V9.0

11th place out of 60+

Selected for ACES Coders V9.0

PERSONAL

Hackers Club Competitive Programming

First place in E18 batch

PERSONAL

ProjectEuler

Solved 60+ questions

PERSONAL

CodeForces

Solved 100+ questions

PERSONAL

TypeRacer

70+ WPM typing speed

COMPUTER SKILLS

LANGUAGES

Python3, Java, C, JavaScript (Node.js)

PHP, Bash, HTML/CSS, Arduino

MATLAB, ARMv6 Assembly, Dart

Verilog HDL

CLOUD

AWS EC2, S3, DynamoDB

Microsoft Azure, Vultr, Vast.ai

MongoDB Atlas

DATABASES

MongoDB, MariaDB

Firebase Realtime DB

FRAMEWORKS

Express.js, Spring Boot, Flutter, Keras

FRONTEND

React.js,

OTHER

Git VCS, Docker, Android Studio

Maven, Jekyll, Liquid, Markdown

GitHub Actions, Selenium, LaTeX

AWARDS

2021

Bartholomeusz prize

Best performance in first year mathematics

University of Peradeniya

2021

Tilak Peiris Awards

Best performance in first year

University of Peradeniya

CERTIFICATIONS

HACKERRANK

Python (Basic)

COURSERA

Matrix Algebra for Engineers

COURSERA

Python Data Structures

COURSERA

Java for Android


COURSERA

COVID-19: What You Need to Know

Cryptocurrency Auction Manager

[Java, SpringBoot, Android Studio, Azure]

- an Android application, primarily focused on the backend aspects.
- Designed and implemented the backend using Express.js, utilizing MongoDB for efficient data storage
- Managed the Azure VM, ensuring smooth hosting and installation of MongoDB.
- Created comprehensive documentation for the backend API.


[Commits by me] 

2022 

Internship Allocation System for Department of Computer Engineering

[PHP, MariaDB, HTML/CSS, Bootstrap 5]

- The application encompasses student and company profiling, streamlining the process of matching students with suitable internship opportunities.
- Designed the PHP code and implemented the SQL code to ensure smooth functionality.
- Hosted the application on 000webhost.com, allowing free and accessible usage

[Commits by me] 

2021 (CLOSED SOURCE)

8-bit single cycle processor

[Verilog-HDL]

- 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.

REFERENCES

Dr. Asitha Bandaranayake

POSITION Senior Lecturer
Department of Computer Engineering 
University of Peradeniya 
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Dr. Damayanthi Herath

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LANGUAGES

Sinhala
English