

# Thilan Dissanayaka

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## Summary

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Final-year Engineering undergraduate with a strong foundation in computer science and extensive experience in software engineering. Proficient in web development, software architecture, and cybersecurity, with proven ability to build scalable applications and manage the entire software development lifecycle. Interested in working with modern development frameworks to deliver robust and high-quality solutions.

## Skills

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- **Front-end development:** React, Next, Tailwind CSS, JavaScript and TypeScript.
- **Back-end development:** Node/Express, Nest, Java/SpringBoot, and PHP/Larval.
- **WSO2 technologies:** Ballerina, Micro Integrator, API Manager, Asgardeo, Choreo
- **Mobile development:** React native, Flutter/Dart, Android studio.
- **Databases:** MySQL, MongoDB, DynamoDB.
- **DevOps and Cloud computing:** Linux administration, CI/CD, Docker, Jenkins, and AWS.
- **Tools and technologies:** Git, Jira, Figma, Agile development.
- **Cyber security:** Malware analysis, Web application security, penetration testing, exploit development, and reverse engineering.
- **Low-Level Development:** C/C++ , Assembly, STM32, PIC, AVR.
- **Blockchain Development:** Ethereum, web3.js, Solidity, Smart Contracts, Ganache, Truffle, Hardhat.
- **Soft Skills:** Project Management, Communication, leadership and team work.

## Education

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University of Ruhuna, BSc (Hons) in Electrical and Information Engineering Sept 2021 – Sept 2024

- **Related coursework:** Software project, Web development, Image processing, Information security, Marching learning, Computer Architecture, Data structures and Algorithms, Design patterns, Operating System programming, High performance computing, GUI development, Embedded Systems, Object Oriented Programming, Databases.

## Experience

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**Software Engineering internship, WSO2** Nov 2024 – May 2025

- Did a research project focusing Token validation in the Edge computing which was mentored by Dr. Srinath Perera. (AWS Lamda, EC2, Cloudflare, Nginx, Edge Computing)
- Developed a Ballerina CLI tool to translate a given smart contract into a Ballerina connector. (Java, Ballerina Syntax Tree API, Pico CLI)

**Software Engineering internship, Aldtan (Pvt.) Ltd.** Jan 2024 – June 2024

- Actively involved in a government project called the Southern Province Passenger Vehicle Permit Gateway, which was a web application built with Nest.js and Vue.js.

**Software developer** 2012 – 2023

- Developed commercial software including POS systems, Inventory management systems, HRM portals, Food ordering systems, School management systems.
- Experienced in multiple tech stacks including PHP/MySQL, Java/SpringBoot, MERN stack.
- Integration of Payment gateways, OAuth systems , SMS gateways etc.

## Projects and Research

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### CPU Simulation Software (cpusimulator.org)

- A research project focusing on simulating the entire computer CPU and memory areas such as Stack, Heap, etc.
- Capable of executing Intel assembly instructions on the CPU and examining the memory.
- Tools Used: React.js, Tailwind, GDB

### LECO AI-enabled Smart Grid Project

- Project in collaboration with LECO and the University of Ruhuna, funded by ADB.
- Actively contributed to the meter programming and server communication part.
- Tools Used: Embedded C, Nuvoton M031, Quectel BC92, DLMS protocol, TCP, MongoDB

### Blockchain-based Real Estate Marketing Platform

- FYP project targeted to develop a blockchain and cryptocurrency-based marketing platform for real estate.
- Technologies: Web3.js, C++, Ethereum, ERC720, ERC20, React.js, Flutter, Solidity.

### Other projects

- Developed management software for Miracle mine teddy bear factory, IGrid (Pvt) Ltd.
- Complete web based LMS for DWT (Pvt) Ltd using react.js and Nest.js.
- Ethereum library for Ballerina programming language.
- Front-End development framework based on React.js and Tailwind.css.

## Publications

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### Design and Implementation of a Web-Based CPU Simulator (In progress)

Aug 2024

*Thilan Dissanayaka*

### Blockchain based Real Estate marketplace

Jun 2024

*Thilan Dissanayaka*, Manjitha Marasinghe, Sashiprabha Mihihansi

## Competitions

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- Selected to the top 10 teams from the *Innovate with Ballerina* competition organized by WSO2.
- Won 2nd place from Sri Lanka at the IEEE R10 robotic competition.
- Participated in the Xbotix robotic competition, IEEE Extreme programming competition,, and IEEE Electronic Design Competition.

## Extracurricular Activities

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- Worked as a student instructor at the Faculty of Engineering, University of Ruhuna.
- Chairman of the IEEE Computer Society, University of Ruhuna.
- Conducted workshops at the University on Matlab, cyber security, web application security, and cryptography.
- Organized Haxtreme, Eminence, RedCypher, HacDoze, DevExpert, and Axiom events.

## References

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### Dr. Chatura Seneviratne

Senior. lecturer, Department of Electrical and Information Engineering, Faculty of Engineering, University of Ruhuna.

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### Mr. Viraj Kanakaratne

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