

Nipuna Upeksha

Software Engineer

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Experience

Software Engineer @ WSO2

May 2021 – Present // Colombo, SL

- Write modern and performant code for WSO2 Identity Server.
- Work with a diverse array of languages, frameworks, and version control systems such as Java, OSGi, Maven, Swagger, React, Node.js, MySQL, Oracle DB, Docker, etc.
- Communicate and collaborate with interdisciplinary teams of engineers, solution architects, designers, clients, and software architects on daily basis.
- Interfaced with clients and engineers, providing technological knowledge and expertise on IAM.

Trainee Electronics and Software Engineer @ Sanota

June – December 2019 // Galle, SL

- Introduced an innovative way of tracking AGVs using an inductive sensor-based system coupled with ESP 8266, Arduino and trilateration.
- Worked with a team of three engineers to build a web-based Apparel Management System.
- Contributed on implementing a portable graph plotting device using Raspberry Pi and Java.
- Worked closely with engineers and designers to develop, document, and manage the mentioned projects while providing demonstrations for multiple potential clients.

Freelance Software Developer

June 2017 – May 2021 // Galle, SL

- Worked with multiple clients on a wide variety of projects while providing performant and robust code up to the client's satisfaction.
- Used a spectrum of languages, frameworks, and libraries such as Node.js, Express, MySQL, React, React Native, Angular, Ionic, Java FX, J2EE, Spring, Python, PHP, Laravel, etc.
- Architected and implemented full stack projects, machine learning projects, and web and mobile applications.
- Interfaced with clients on daily basis, providing them technological expertise and knowledge.

Projects

Enterprise Projects

AGV Management System @ Sanota

Arduino, Node MCU, ESP 8266, and Java

- An innovative way of building an indoor positioning system for AGVs using an array of inductive sensors, a Node MCU and ESP 8266 grid, and a serial and wireless communication interface.

RPI Logger @ Sanota

Raspberry Pi, Java, and Maven

- Portable graph plotting device for sensors coupled with an ADC, an RTC clock, and a Java based system.

Apparel Management System @ Sanota

HTML, CSS, JQuery, Node.js, and MySQL

- Web-based apparel management system made using HTML, CSS and JQuery for the front end, and Node.js for the backend and MySQL for the database.

Skills

Programming Languages

Java, Python, JavaScript (ES6), PHP, TypeScript, HTML, CSS/Sass, C++, C, MATLAB, Verilog, LaTeX

Libraries & Frameworks

jQuery, React, React Native, Angular, Ionic, Node.js, Express, Spring, JSP, J2EE, Laravel, Alpine, Bootstrap, Tailwind CSS, CodeIgnitor, OSGi

Tools & Platforms

Git, Gulp, Docker, WordPress, Quartus Prime, Code Composer Studio

Databases

MySQL, PostgreSQL, Oracle DB, H2

Hardware

Arduino, PIC, FPGA, Raspberry Pi, Node MCU, TMS3205535 eZDSP, ESP 8266

Design

Adobe Photoshop, Final Cut Pro

Education

University of Moratuwa

2016 – 2021 // Moratuwa, SL

B. Sc. Engineering (Hons.) specialized in Electronic and Biomedical Engineering.
GPA: 3.29

Richmond College

2001 – 2014 // Galle, SL

Four distinction passes in G.C.E. Advanced Levels for subjects Physics, Chemistry, Combined Mathematics and General English. Acquired district rank **26** and island rank **247** among 35,000 candidates with **2.357** Z-Score.

Nine distinction passes in G.C.E. Ordinary Levels.

IJSE - Institute of Java and Software Engineering

2015 – 2016 // Galle, SL

Comprehensive Master Java Developer Certification (CMJD)

Organization Management @ WSO2

Java, Maven, Oracle DB, H2, Swagger, and REST API

- Implementing the Organization Management feature for WSO2 Identity Server.

Academic Projects

Prototyping a Functional Hearing AID @ UoM

C++, MATLAB, TMS320C5535ezDSP, Code Composer Studio

- Since good quality hearing aids are quite expensive, this project was initiated as the first step of making a good quality hearing aid locally.
- Implemented several algorithms including, the dual adaptive filter method for feedback cancellation, coherence algorithm for adaptive directionality using two omnidirectional microphones, adaptive filter methods for noise cancellations(LMS, NLMS, ANLMS, RLS, AFA) and frequency shaper function to gain control.

FIR Filter Implementation @ UoM

MATLAB

- To get a better understanding of the FIR and IIR filters, this was implemented with Kaiser Windowing using MATLAB.

Connect Six Game @ UoM

Micro C

- The classic connect six game was made using Micro C and PIC8 microcontroller having two game modes, Player vs. Player and Player vs. Computer.

Image Downsample Processor Design @ UoM

Verilog, MATLAB, and Intel Quartus Prime Suite

- Image downsampling processor made using Intel Quartus Prime and Modelsim Altera, while image downsampling test cases were verified using MATLAB.

Payroll Management System @ IJSE

Java, MySQL, Jasper

- Created an employee management, salary calculation and report generation application.

Other Projects

Unsupervised Machine Learning for Custom Market Segmentation

Python

- K-Means clustering was used to understand the marketing segmentation to maximize the conversion rate.
- Numpy, Pandas, Matplotlib, Seaborn, and Sklearn were used for the implementation with elbow method to determine the optimal number of clusters.

Trip Recommender

Ionic, Angular, Node JS, Express, and MySQL

- This application was created for travelers who want to find the best trip that's available for them, which also aligns with their budget and accommodation.

Coffee & Company

PHP, HTML, CSS, and JS

- A responsive website for a local restaurant.

Apollo Hotel Management System

Java, Spring, PostgreSQL, Docker and GulpJS

- A web application for managing employee management, customer management, and adding reservations.
- Here, the Java Thymeleaf template engine was used to build the frontend with Tailwind CSS, PostgreSQL on docker was used for the database and Java was used to build the backend.
- Spring Web, Spring JPA, and Spring Security have been used on this project to make this a secure application.

Awards & Honors

Richmond College Colors for Chess
2015

**Mahapola Merit Scholarship
for Engineering Undergraduates**
2016

Richmond College Merit Award
2016

**Several District, Provincial and
All-island Chess Awards**
2005–2015

Dean's List - Semester 8
2020

Certifications

Machine Learning Specialization
University of Washington, USA

**Foundations of Data Science:
K-Means Clustering in Python**
University of London, UK

Python for Genomic Data Science
John Hopkins University, USA

**Frontend JavaScript Frameworks:
Angular**

Hong-Kong University of Science
& Technology, Hong Kong

**Frontend JavaScript Frameworks:
React**

Hong-Kong University of Science
& Technology, Hong Kong

Interests

Chess, Swimming, Travelling, Reading, Blogging,
Hiking

References

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