



About Me

I'm a Fullstack Web Developer with 5+ years of experience and a Computer Science Engineering undergraduate. Recently I have taken an interest in Deep Learning and related applications.



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Certifications

- **Deep Learning Specialization** (5 course) by DeepLearning.AI (2020)
- **Large Language Models** - Level 3 by H2O.ai (2024)
- **Machine Learning for NLP** by AWS Academy
- **Python3** (2020) | **Javascript** (2020) by Sololearn



Stack

- **Programming Languages:** Python | Javascript | C | C++ | Java | Lua | Rust
- **Web Development:** HTML | CSS | React | Django | FastAPI | h2o Wave | Wagtail | Selenium
- **Machine Learning:** Pytorch | Numpy | Scikit-Learn | Pandas | h2oGPTe | h2o DAI | Langchain
- **Database Systems:** SQL | PostgreSQL | MongoDB
- **Mobile Development:** React Native | Solar2D
- **Tools:** Git | Docker | Linux | VSCode



Referees

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SANDIL RANASINGHE

FULLSTACK DEVELOPMENT (5+) | DEEP LEARNING RESEARCH



Experience

H2O.ai | Customer Data Science Team (APAC)

Nov 2023 - Aug 2024

Data Science Intern

- Developed GenAI-based applications using H2O.ai's h2oGPTe RAG system and h2o Wave application framework to solve real-world business problems leveraging LLMs and prompt fine tuning.
- Developed semantic similarity based benchmarks for evaluating performance for use cases to align with business needs.
- Coded web application prototypes including focus on error handling and concurrency for performance optimization.
- Modeled customer data using H2O DAI and designed dashboards for visualization.
- Automated data synchronization from CFPB (public) API periodically for an existing application.
- Background reading, discussions and presentations on LLM agents and applications.
- Volunteered to lead (for several months) intern sync sessions involving updates, discussions and presentations from present interns at H2O.
- Python | asyncio | h2o Wave | h2oGPTe | h2o DAI | Plotly | Pandas | Neo4J | Prompt Engineering | Data Visualization | RAG

IFS x Hatch ChallengerX

Dec 2022 - May 2023

Machine Learning Incubator Program

- Part of a 4 member team selected for the program from dozens of teams across multiple universities. We received the opportunity to meet and be mentored by industry leaders. (<https://ifs-challengerx.hatch.lk/>)
- Presented our solution to a panel of industry experts.
- Python | FastAPI | Pandas | scikit-learn | Pytorch

Google Summer of Code 2022

May 2022 - Sep 2022

Contributor @ Wagtail CMS

- Developed a toolkit of helper functions and classes for Streamfield Data Migrations which hook into Django's internal migration system.
- Also developed an automatic migration script for simple Streamfield Changes.
- Main changes merged into open source CMS Wagtail while additional features are maintained as a separate package.
- Received mentoring by experienced developers, gaining valuable insights into coding best practices alongside technological expertise and extensive code reviews.
- Python | Django | Wagtail

Ruach Holdings (lk)

Aug 2024 - Nov 2024

Consultant Software Developer (Part Time)

- Adapting existing codebase of a framework for a new web application prototype. I was responsible for configuring initial containerisation of services and a dev server deployment on EC2 with an Nginx reverse proxy and certbot setup.
- Designed DB extensions, logical flow and implemented API endpoints for a new feature.
- Docker | NodeJS | React | NestJS | NextJS | Nginx

University of Moratuwa

May 2024 - Dec 2024

Teaching Assistant | OS Module

- Conducting Lab Sessions and evaluating lab submissions.
- Wrote a script to automate extracting, building and running all pintos folder submissions, reducing the work involved in manual checking.
- C | Pintos

Stack Technologies (lk)

Sep 2019 - Aug 2021

Intern Full Stack Developer

- Main Developer for SLTB Citybus Application Prototype.
- Developing models and RestAPI with Django Rest Framework, additional queries and data visualization for DSI Scheduling Software.
- Received training on Fullstack development guided by Senior Engineers in developing a dealer management software.
- Python | Django | DRF | NodeJS | React | NestJS | React Native | Docker | Nginx | Grafana | SQL | Fullstack Development

Freelance Full Stack Developer

- Setting up Moodle LMS for cjmaths.lk
- AI-powered resume review application for The Job Helpers
- Web Scraping project for Avonov Global
- Assisting postgrad/research students with code/script parts of projects (Web/ML)



Achievements

Programming/Data Science

- **Ranked 3 in SL/112 Worldwide** - IEEEExtreme 17.0 (2023)
- **Ranked 2 in SL/129 Worldwide** - IEEEExtreme 16.0 (2022)
- **Champions** at Bashaway Scripting and Automation Competition (2023) by SLIIT.
- **Runners Up** - RootCode Tech Triathlon (2023) Design, Hackathon & Datathon
- **Runners Up** - ChallengerX ML Incubator Program by Hatch x IFS
- **Runners Up** - DataStorm 4.0 (2023) Data Science & Analytics Competition
- **Semi-Finalist** - DataStorm 3.0 (2022) Data Science & Analytics Competition
- **Top 7 Finalist** at the Asia Pacific Advanced Network (APAN56) Datathon.
- **Finalist** at Code Squad 3.0 Programming Competition.
- Problem Solving, Python, SQL **Gold Badges** on Hackerrank.

Mathematics

- **Honorable Mention** - 58th International Mathematics Olympiad (Brazil 2017)
- **Participated** in the 56th International Mathematics Olympiad. (Thailand 2015)
- **Bronze Medal** - (under 17 category) IMC (China 2015).
- **High Distinction** - Sri Lanka Mathematics Olympiad in years 2013, 2014, 2015, 2016, 2017.

Debating

- **Champions** at Hulftsdorp Inter University Debating Championship 2023 organized by the Law College of Sri Lanka.
- **Runners Up** at IUDC organized by Royal Institute Colombo.
- **Participated** in the Asia World Schools Debating Championship in Thailand 2016.
- **Winners** at DC League 2017/2018 organized by the Debaters Council of Sri Lanka.
- Selected for the **National Debaters Pool** in 2017.
- Sri Lanka Debaters Council endorsed **Judge** for the local debating circuit.
- Member of the Royal College English Debating A team.



Projects

Temporal Data Driven Efficient Diffusion (FYP)

ongoing

- Research into data efficient diffusion using 1D data, with a focus on adopting Neural Processes (Gaussian Processes).
- Adapted architectures in existing literature to model ECG data and are currently researching to make a novel addition.

Disaster Analysis and Response Tool (ChallengerX)

2023

- An AI/ML system leveraging geo-spatial data to model damage to customer assets by natural disasters. My primary responsibility involved designing and implementing a Machine Learning pipeline.

Wagtail Streamfield Migration Toolkit (GSoC)

2022

- Created a toolkit for helping create Data Migrations by hooking into Django's internal migration system for Wagtails "StreamField" field which is represented as a JSON object in the database, and hence ignored by Django's migration system.
- <https://summerofcode.withgoogle.com/programs/2022/projects/lt13tsFg>

Skills Upscale Program (CSE 20)

2024

- A series of technical knowledge sharing sessions on frameworks/tools. I coordinated the student/industry led sessions and also conducted sessions on topics such as optimizing queries using PostgreSQL, CSS animation effects, preparing for the ML interview etc.

MoraUXplore Website

2023

- Official portal for the competition. I was responsible for containerising and deploying the website and services on a DO droplet server and configuring DNS records etc.

Borrowhub

2023

- An application for sharing community goods. My contributions included making a CD pipeline and maintaining code quality in the backend.
- <https://github.com/TrackTechLK/BorrowHub>

5G Energy Consumption Modeling (Sem 5 Project)

2023

- Modeling and predicting energy usage for 5G network stations based on configurations and past data..

DebateTracker

2024

- Application for tracking tournament data developed by a fellow debater. I revamped the front-end UI using MUI.

Speech Olympiad Website (XV)

2022

- Codeveloper for the Speech Olympiad website.

Pintos Labs (Semester 3 Project)

2022

- Implementing functionalities within the Pintos project.

React Sample Animated Backgrounds

2022

- Personal Project - A library of sample animation backgrounds that can be easily integrated with a react application.



Education

BSc Eng Hons, Computer Science & Engineering

2021 - Present

University of Moratuwa

- CGPA - 3.61
- **Minor in Mathematics**
- **Student Representative** (CSE Department) for the semesters 7 and 8
- Member of the Gavel Club of UoM, **Webmaster** 2023/2024
- Member of the Mathematics Society of UoM, **Committee Member** 2021/2022
- Part of official app development team for EXMO 2023 exhibition organized by UoM
- Part of team creating questions for MoraXtreme 7.0 Programming Competition
- Part of Careers Fair 25 Website Development Team

Royal College

2011 - 2019

- GCE AL Mathematics Stream (2019) - 3As Island Rank 63 | Z score- 2.7366
- Member of the English Debaters Council of Royal College (2015 to 2018), **Treasurer** 2016/2017
- Member of the Gavel Club of Royal College (2011 to 2018), **Vice President (Education)** 2017/2018