Danujan Sivasundaralingam

Department of Computer Engineering, University of Peradeniya

+94 768312407 danujan06@gmail.com danujan-sivasundaralingam Danujan06 danujan06.github.io

Profile

A passionate 3rd year Computer Engineering undergraduate with a keen interest in **Machine Learning** , **Software Engineering** and **DevOps**. Actively seeking an internship opportunity to gain practical experience and contribute to meaningful projects.

Education

University of Peradeniya — **Mar 2021 – Present**
BSc.Eng(Hons.) in Computer Engineering — CGPA: 3.30/4.00

J/Chavakachcheri Hindu College — **Jan 2011 – Aug 2019**
GCE Advanced Level Examination - 2019 — Results: 3A , Z-Score: 2.1617

Technical Skills

Programming Languages	Java, Python, C
Web Development	HTML5, CSS, React.js, Spring Boot
Libraries	Numpy, Pandas, Matplotlib, scikit-learn, OpenCV
Database	MySQL
Cloud Platforms	AWS (EC2,RDS) , Google Cloud

Volunteer Projects

Predicting Inpatient Bed Demand with Machine Learning | Group | **Oct 2023 - Present**

- We address the healthcare overcrowding problem by utilizing Machine Learning, aiming to optimize resource planning in the Emergency Department and Post-Anesthesia Care unit for enhanced efficiency and improved patient care.
- Contributed to dealing with categorical data and created a new dataset using the existing time series data for training the models.
- **Techniques**: K-Means Clustering, Support Vector Regression

Projects

Rainfall Prediction System | Group | **Apr 2023 - Present**

- Developed a machine learning-based system to predict rainfall measurements for various locations using latitude, longitude, and historical weather data.
- Conducted extensive feature engineering to enhance the dataset,Implemented and compared multiple machine learning models to identify the best-performing approach for rainfall prediction.
- Explored SHAP method to interpret the model's decision-making process, providing transparent insights into feature importance and individual predictions.
- **Technologies**:Python, pandas, scikit-learn, SHAP, Jupyter Notebook
- **Techniques**:Gradient Boost Machines, Decision Trees, and Random Forests

Engineering Education Unit Web Application | Group | **Aug 2023 - Oct 2023**

- A web application that combines robust security features with a responsive user interface and an exceptional user-friendly **editable admin page.**
- Contributed to develop both frontend and backend pages for admin and **deployed the web application in a Linux based server.**
- **Technologies**: React.js, Spring Boot, MySQL, CSS, JWT
- **Accessible on** : eeu.pdn.ac.lk

Automated Hydroponics System | Group | **Nov 2023 - Jan 2024**

- Developed an IoT-based Automated Hydroponics System with web and mobile applications for monitoring and controlling system conditions, as well as managing resources.
- Contributed to develop the backend system for both web and mobile applications, mainly focused on **user management, authentication** , **deployed the frontend and backend applications** in a cloud platform and managed data using a MySQL database on AWS RDS.
- Implemented a CI/CD pipeline using GitHub Actions, Docker, and AWS EC2 to automate the deployment process and ensure continuous integration and delivery.
- **Technologies**: React.js, Spring Boot, Flutter, MySQL, JWT, AWS, Docker, GitHub actions, CI/CD pipelines
- **Security practices**: Role based user authentication, Refresh tokens

School Attendance Management System | Group | **Mar 2023 - Jun 2023**

- A versatile and user-centric platform that enhances the school's attendance tracking and communication process.
- Contributed to designing the attendance marking page with automated email sending facilities.
- **Technologies**: React.js, Spring Boot, MySQL, CSS

Library Management System | Group | **Mar 2023 - Jun 2023**

- A robust and user-friendly solution to enhance the library's efficiency and improve the overall user experience.
- Contributed to developing the home page of the web application with features such as user authentication and book searching.
- **Technologies**: HTML5, CSS, PHP, MySQL

Achievements

Hackfest | Champions | Sustainable Ecosystems Category **2023**
48 Hour inter-university Hackathon University of Peradeniya

ACES Coders v10.0 | Participant **2023**
12 Hour competitive programming competition University of Peradeniya

Certifications

Supervised Machine Learning: Regression and Classification DeepLearning.AI
Advanced Learning Algorithms DeepLearning.AI
Foundations of Project Management Google
Introduction to Artificial Intelligence Indonesia Cyber Education Institute
Computer Networks Indonesia Cyber Education Institute

Community Involvement

Blog Writter, Medium Jan 2024 - Present
Executive committee member, ACES, University of Peradeniya Jan 2024 - Present
Web Development Team, Hacker's Club, University of Peradeniya Jan 2024 - Present

References

Prof. Roshan G. Ragel | roshanr@eng.pdn.ac.lk
Professor and Head, Department of Computer Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka
Dr. Isuru Nawinne | isurunawinne@eng.pdn.ac.lk
Senior Lecturer, Department of Computer Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka