Thushan Madarasinghe

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ABOUT ME

As a Computer Science undergraduate, I am passionate about technology, programming, and problem-solving. Through my academic journey and hands-on projects, I have gained experience in Web development and mobile development. I have an understanding about data structures, algorithms, OOP concepts, and software engineering principles. With leadership experience from School and IEEE CS Society projects, I excel in teamwork, project management, and delivering impactful solutions. I enjoy learning new technologies, exploring new ideas, and connecting with diverse people to gain fresh perspectives. I am eager to contribute to innovative technologies and grow in this field.

EDUCATION

BSc(Hons) Computer science
University of Westminster - IIT Sri Lanka (2023 - 2027)

Physical Science Advance Level 2023 (2022)
Richmond College Galle.

CERTIFICATIONS & COURSES

- **The Complete Full-Stack Web Development Bootcamp**
  Dr. Angela Yu, Developer and Lead Instructor - Udemy

- **React Native - The Practical Guide**
  Academind by Maximilian Schwarzmüller - Udemy

PROJECT EXPERIENCE

GoviShakthi – AI-Powered Alternative Product Recommendation App (OnGoing)   **Sep 2024 - Present**

Developing an AI-powered mobile application for the GoviShakthi project, an SDGP project in my 2nd year of IIT, designed to help farmers mitigate price drops by recommending value-added products.
Role: Front-End Lead | Backend API Contributor | Team Management

Key Contributions:
- **Front-End Development (Lead):** Leading the development of the mobile app using React Native, ensuring an intuitive and responsive user experience.
- **Backend & API Integration:** Contributing to the backend by developing and integrating APIs using Node.js and Express.js for seamless data retrieval and processing.
- **AI-Driven Recommendations:** Implementing LLM-based analysis to provide intelligent product suggestions based on market trends.
- **Project Management & Team Collaboration:** Overseeing team coordination, ensuring smooth workflow, and guiding project execution to meet development milestones.

Real-Time Ticketing Platform (Node.js, React, Worker Threads)   November 2024

Developed a real-time ticketing platform designed for a vendor-customer scenario, efficiently handling concurrent ticket releases and purchases using the producer-consumer pattern.

Key Contributions:
- **Concurrency Management:** Implemented the producer-consumer pattern using Node.js worker threads to manage simultaneous ticket sales and prevent overselling.
- **Scalable Architecture:** Designed a system capable of handling high-demand transactions while ensuring data consistency and performance.
- **Real-Time Updates:** Integrated real-time ticket availability and purchase tracking with WebSockets for seamless user experience.
- **Front-End Development:** Designed a React.js dashboard displaying real-time ticket sales data through interactive graphs.
- **Backend API Development:** Developed RESTful APIs in Node.js to manage ticket processing and customer interactions.

Plane Management System – Java Console Application (University Project)   March 2024

Developed as part of my university coursework, this console-based Plane Management System efficiently manages seat booking, cancellations, and ticket tracking, providing a user-friendly experience for handling flight seat reservations.

Key Contributions:
- **Seat Management:** Created a seat reservation system, allowing users to book and cancel seats based on availability with real-time updates.
- **Ticketing System:** Implemented a ticketing system to manage bookings, cancellations, and track details of each ticket issued.
- **Search & Reporting:** Enabled search functionality to find specific seat information and view detailed reports on ticket sales and cancellations.
- **Error Handling & Input Validation:** Integrated robust error handling and input validation to ensure smooth and error-free user interactions.
- **Technologies:** Java, Object-Oriented Programming (OOP), Exception Handling, File Handling

Progression Outcome Tracker - Python Application (University Project)   November 2023

This application was developed as part of my university coursework to track student progression based on their credits in pass, defer, and fail categories. It calculates progression outcomes, displays results in a histogram format, and stores the data in a file for record-keeping.

Key Contributions:
- **Data Collection & Validation:** Implemented user input validation to ensure that the credit values entered for pass, defer, and fail marks adhere to the required constraints.
- **Progression Logic:** Developed logic to calculate student progression based on the entered credit values and categorize them as "Progress", "Trailer", "Retriever", or "Exclude".
- **File Handling:** Used file operations to store progression data, enabling persistent record-keeping.
- **Histogram Visualization:** Utilized the graphics.py library to generate a real-time histogram visualization representing the distribution of student progression outcomes.

KEY COMPETENCIES

- **Front-End Technologies**   ReactJS, JavaScript, HTML5 and CSS3
- **Back-End Technologies**   Node.js, Express.js
- **Development Languages**   Java, Python, JavaScript
- **Mobile App Development**   React Native

EXTRACURRICULAR ACTIVITIES

President, Richmond College Photograpic Society
2023/2024

Senior Crew Member, Richmond Live
2022 - Present

Volunteer IEEE Computer Society IIT
2023 - Present

Volunteer Cutting Edge IIT
2023 - Present

Committee Member - Richmond College IT Society
2022/2023

Member IEEE Student branch IIT
2023 - Present

St.John Ambulance , Richmond College
2014-2021

INTERMEDIATE SKILLS

- Project management
- Work On Time
- Pressure Handling
- Leadership
- Chasing New Technologies
- Team Player
- Documentation

REFEREES

Suneth De Soyza,
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