

# KAVEESHA HESHAN SENARATHNA

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## Professional Summary

Results-driven final-year Software Engineering undergraduate with comprehensive expertise in full-stack development and emerging technologies. Proficient in building scalable web applications using the MERN stack, cross-platform mobile solutions with Flutter and React Native, implementing AI/ML capabilities in real-world projects. Experienced in creating intuitive user experiences through Figma-based UI/UX design. Demonstrated ability to deliver user-focused digital solutions by combining strong technical foundations with problem-solving aptitude. Committed to continuous learning and applying research-driven approaches to develop innovative software solutions.

## Education

### BSc (Hons) in Information Technology (Specialized in Software Engineering)

SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY (SLIIT) | 2022 – 2026

### School Education

RAHULA COLLEGE, MATARA | 2019 – 2021

## Technical Skills

- **Backend:** Node.js, Express.js, Spring Boot, Java, PHP, RESTful APIs, Microservices, JWT, OAuth
- **Frontend:** React, Tailwind CSS, Material-UI, Kotlin, jQuery
- **Databases:** MongoDB, MySQL, Firebase
- **DevOps & Cloud:** Docker, CI/CD (GitHub Actions), Vercel
- **Testing:** Jest, Postman, React Testing Library, JUnit

## Project Experience

### 1. Secure RESTful API for Personal Finance Tracker (Individual Project)

- Architected a **full-stack** income & expense management system processing **500+ monthly transactions** using **Node.js, Express.js, MongoDB, and React.js frontend**
- Designed responsive **React.js** UI improving task completion by **35%** for CRUD operations on income/expense transactions, including forms, validation, filtering, and search

- Engineered secure **RESTful APIs** supporting **100+ active users** for user authentication, income tracking, and expense management
- Integrated **JWT authentication** with middleware to enforce secure access control and protected routes achieving 99.9% uptime (frontend + backend)
- Created **Mongoose** data models (User, Income, Expense) with schema validation, relationships, and optimized queries reducing response time by 40%
- Constructed dashboard analytics in React (summary cards/charts/tables) to visualize totals across **12+ expense categories** and spending trends
- **7. Implemented PDF report generation** enabling 200+ monthly downloads for exporting income/expense summaries with download/export functionality from the frontend
- **8. Applied MVC architecture** on the backend achieving 30% faster feature **implementation** to ensure clean, scalable, maintainable code and separation of concerns
- **9. Maintained Git/GitHub** version control with , followed best practices for **API security**, error handling, and input validation

## 2. Healthcare Appointment & video consultation Platform (2025) (Individual Project)

- Developed a comprehensive **full-stack** healthcare platform with Patient/Doctor/Admin portals serving **200+ users** using **Node.js, Express.js, MongoDB, and React.js** frontend
- Constructed responsive **React.js** UI managing **300+ monthly appointments** for CRUD operations on appointments, medical records, and consultations, including forms, validation, filtering, and search
- Designed and implemented secure **RESTful APIs** for user authentication, role-based access control (RBAC), appointment scheduling, and telemedicine management
- Integrated **JWT** authentication with middleware to enforce secure access control and protected routes achieving **99.9% uptime (frontend + backend)**
- Established Mongoose data models (User, Appointment, Doctor, Patient, Prescription, LabResult) with schema validation, relationships, and optimized queries reducing data retrieval time by **45%**
- Incorporated video consultation features including video consultation integration (**Jitsi/Twilio**) facilitating **100+ remote consultations**, waiting room functionality, and real-time notifications
- Deployed digital health records management system storing **500+ medical documents** for storing/retrieving prescriptions, lab results, medical history, and enabled file uploads for documents
- Engineered admin **dashboard analytics** in React (summary cards/charts/tables) to visualize appointments, revenue, patient trends, and user management tracking
- Applied MVC architecture on the backend to ensure clean, scalable, maintainable code and separation of concerns achieving **40% reduction in code duplication**
- Used **Git/GitHub** version control , followed best practices for API security, error handling, input validation, and centralized Axios configuration

### 3. Photogram - Social Media Platform (Group Project)

- constructed **full-stack social media platform** using **React (Frontend)** and **Spring Boot (RESTful Backend)** with **Firebase (Storage/Auth/Config)** integration
- Deployed secure authentication and authorization using **JWT** and **Spring Security** with role-based access control (RBAC)
- Created responsive, feed-based UI with smooth animations and mobile-optimized navigation for seamless user experience
- Designed a complete **Post Management System (CRUD)** supporting text, image, and video posts with real-time feed updates
- Enabled user interactions including likes and comments, with proper state management and UI feedback
- Integrated media upload and preview functionality, enforcing client-side file type and size validation before upload
- Implemented **robust** error handling covering loading states, empty feeds, validation errors, and API failures
- Built **scalable and secure REST APIs** to protect user data and application endpoints

### 4. MERN User Authentication & Profile Portal (Individual Project)

- Developed a **full-stack** MERN User Authentication system serving registered users using **React, Node.js, Express.js, MongoDB**, and Mongoose with clean **frontend/backend** separation
- Engineered secure **REST APIs** for user registration/login and profile retrieval with test coverage, implementing Authentication & Authorization using **JWT (JSON Web Token)** and Express middleware
- Implemented password hashing and verification with **bcrypt** achieving zero security breaches, following Security Best Practices for credential handling and secure session management
- Created a React SPA with React Router, Protected Routes, and Context API to manage authentication state across pages and enforce access control for private pages (e.g., Profile)
- Enabled seamless API Integration between frontend and backend using CORS and dotenv-based environment configuration with average response time; designed endpoints to support CRUD-ready user workflows