

# MICHAEL CLERANS

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## PROFILE

I am an Undergraduate IT Student specializing in mobile application development and full-stack systems. I have hands-on experience building real-world applications using React Native, Node.js, Express, and relational databases. I am skilled in designing secure backend APIs, integrating mobile frontends, and developing practical, user-friendly applications. I am passionate about learning industry-relevant technologies and applying them to scalable real-world solutions.

## WORK EXPERIENCE

- **Freelance Web & Mobile Developer** (2025 – Present)

- Designed and developed custom websites, mobile applications, and e-commerce solutions tailored to client requirements.
- Utilized React, Node.js, Firebase, and MySQL to build scalable and maintainable applications.
- Enhanced website performance and user experience through effective UI/UX optimization and responsive design.

## SKILLS

- **Programming Languages:** Java, JavaScript, Python, PHP, HTML, CSS, C
- **Frameworks & Libraries:** React Native, React, Node.js
- **Database Management:** PostgreSQL, MySQL, Oracle 19c
- **Web & API Development:** RESTful APIs, Fast APIs, Firebase Auth
- **Mobile Application Development:** Android Development (Java, Kotlin), React Native
- **Cloud Platforms & Deployment:** AWS
- **Developer Tools:** Git, GitHub, Postman, Figma
- **Languages:** Tamil, English
- **Soft Skills:** Communication, Leadership, Time Management, Project Management, Teamwork, Creativity, Problem-solving, Critical Thinking

## EDUCATION

- **BIT (Hons) in Network & Mobile Computing** – Currently studying at Horizon Campus
- **A/L in Engineering Technology** – Hindu National College, Pussellawa (2019)

## ACHIEVEMENTS & CERTIFICATIONS

- **Web Design for Beginners** – University of Moratuwa

*Issued Dec 2024*

## RESEARCH PUBLICATIONS & SYMPOSIUM PRESENTATIONS

### A Collaborative Filtering Approach Using Singular Value Decomposition for Movie Recommendations

*Horizon Interdisciplinary Research Symposium (HIRS) 2025, Horizon Campus, Sri Lanka*

*Nov 2025*

- Co-authored and presented a peer-reviewed research paper on an SVD-based movie recommendation system.
- Trained and evaluated the model using the MovieLens 100K dataset with performance measured using RMSE and MAE.
- Implemented using Python and the Surprise library; achieved an RMSE of 0.91.

## PROJECTS

### MegaShop Mobile App – Full Stack E-Commerce Application (Ongoing)

*React Native, Node.js,*

*Express, PostgreSQL*

- Developing a full-featured mobile e-commerce application with user authentication, product browsing, cart, wishlist, and order management.
- Designed and implemented a complete RESTful backend using Node.js, Express, and PostgreSQL.
- Implemented secure JWT-based authentication and role-based access control.
- Developed backend APIs for products, categories, cart, orders, and wishlist with proper validation and error handling.
- Currently developing the React Native frontend and integrating it with completed backend APIs.
- Followed clean architecture principles using modular controllers and middleware-based security.
- **GitHub:** MegaShop Mobile App

**MC Mobiles App – React Native Mobile Shop (Ongoing)** *React Native, Node.js, MongoDB*

- Developed a mobile shopping application for buying and selling mobile devices.
  - Built an intuitive and easy-to-navigate user interface for smooth mobile shopping.
  - Implemented a Node.js backend API for data management and secure server-side operations.
  - Gained hands-on experience in React Native development, backend API integration, and full-stack application design.
- **GitHub:** MC Mobiles App

**MC Mobiles Website – React-Based E-Commerce Platform (Ongoing)** *React.js, JavaScript, CSS,**Responsive UI*

- Developed a responsive mobile phone e-commerce website using React with a component-based architecture.
  - Designed clean and reusable UI components for product listings, mobile specifications, and navigation.
  - Implemented dynamic product filtering and search functionality.
  - Applied mobile-first and responsive design principles to ensure smooth performance across devices.
  - Improved usability through structured product categorization and interactive UI elements.
  - Gained hands-on experience with React state management and frontend best practices.
- **GitHub:** MC Mobiles Website

**Global Country Insights Dashboard – Group Project** *HTML, CSS, JavaScript, REST APIs, Chart.js*

- Collaboratively developed a web-based dashboard displaying country information, live weather data, and COVID-19 statistics.
  - Integrated multiple public REST APIs including REST Countries API, OpenWeatherMap, and disease.sh.
  - Contributed to frontend development, API integration, and data visualization using Chart.js.
  - Designed responsive UI components with efficient search functionality and user-friendly error handling.
  - Improved user experience through dynamic content rendering and structured data presentation.
  - Worked effectively in a team environment using GitHub for version control and collaboration.
- **GitHub:** Global Country Insights Dashboard

**Weather Web Application***HTML, CSS, JavaScript*

- Built a dynamic and responsive web application providing real-time weather updates.
  - Integrated a public weather API to display temperature, humidity, wind speed, and weather conditions.
  - Designed a clean UI with intuitive interactions and location search functionality.
  - Gained experience with asynchronous JavaScript, DOM manipulation, and responsive design.
- **GitHub:** Weather Web Application

**GPA Calculator Mobile App***Flutter, Dart*

- Developed a cross-platform mobile application using Flutter to calculate university GPA.
  - Implemented subject input validation and real-time GPA calculation logic.
  - Designed a clean and intuitive user interface focused on ease of use for students.
- **GitHub:** GPA Calculator Mobile App

**Library Management System***Java, JavaFX, MySQL*

- Implemented essential library functions including adding, searching, issuing, and returning books.
  - Applied object-oriented programming concepts and modular class design.
  - Strengthened understanding of Java, OOP principles, and database connectivity.
- **GitHub:** Library Management System

**Student Grading System***VS Code, C*

- Developed a C-based application for managing student grades.
  - Implemented mark entry, grade calculation, and result display logic.
  - Strengthened understanding of arrays, loops, conditionals, and file handling.
- **GitHub:** Student Grading System

**References**

**Name:** Mr. George C Dixon  
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