

# EMMANUEL SIELE

COMPUTER SCIENTIST



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## PROFILE

Passionate and results-oriented Web Developer, Designer, and Computer Scientist with a strong foundation in building functional, user-centric, and visually engaging digital products. Skilled at translating complex challenges into intuitive, scalable, and high-performance web solutions. Proficient in modern web technologies, UI/UX best practices, and full-stack development, with ongoing exploration in Android development. Driven by continuous learning, innovation, and the pursuit of outstanding user experiences. Known for fostering collaboration, resolving team challenges, and maintaining clear communication between developers and stakeholders.

## CORE TECHNICAL EXPERTISE

### Web Development

- Strong full-stack development experience, with the ability to build responsive, user-friendly, and high-performance web applications from concept to deployment.
- Proficient in front-end technologies including HTML, CSS, JavaScript, and modern UI/UX best practices for creating clean and intuitive interfaces.
- Skilled in back-end development using PHP (PDO), secure authentication systems, session management, and database-driven application logic.
- Experienced in integrating APIs, automation tools, and AI-powered features to enhance functionality and workflow efficiency.
- Knowledgeable in designing secure applications with practices such as password hashing (with peppering), hardened cookies, and safe database interactions.
- Strong understanding of version control using Git/GitHub, including branching, pull requests, and collaborative development workflows.
- Adept at translating complex problems into scalable solutions while maintaining maintainability, performance, and excellent user experience.

### Mobile App Development

- Growing experience in building native Android applications with a focus on clean UI, smooth interactions, and reliable performance.
- Familiar with Android Studio, project structure, Gradle, and essential development workflows.
- Understanding of core Android components such as Activities, Intents, Layouts, RecyclerViews, and basic lifecycle management.
- Capable of integrating APIs, handling JSON data, and connecting mobile apps to backend services for real-time and data-driven functionality.
- Experience using ADB tools for debugging, device management, and troubleshooting connectivity issues.
- Strong problem-solving skills with the ability to translate user needs into functional mobile features.
- Continuously expanding knowledge in modern Android concepts, including Jetpack libraries, MVVM architecture, and optimized UI/UX for mobile environments.

## EDUCATION

2023 - 2026

### KISII UNIVERSITY

- Bachelor of Computer Science
- GPA: ongoing

2018 - 2022

### KERICHO HIGH SCHOOL

- B+

## SKILLS

### Frontend:

- HTML, CSS, JavaScript, React, UI/UX Principles, Responsive Design

### Backend:

- PHP (PDO), Node.js, Python, Secure Authentication Systems, API Integration, Session Management

### Database / Cloud:

- MySQL, Cloud Deployments (Introductory), Google Console (OAuth, API Setup)

### AI & Automation:

- TensorFlow.js, AI Agents (n8n), Automation Workflows, Sentiment Analysis, Prompt Engineering

### DevOps & Tools:

- Git, GitHub, CI/CD Basics, ADB Debugging, Version Control Workflows

### Mobile Development:

- Kotlin, Android Studio, Jetpack Basics, API/Data Integration, Flutter (ongoing)

### Other Technical Skills:

- System Design Basics, Branding & Digital Content, CMS (WordPress), Secure Coding (Hashing & Peppering)

## Full-Stack Web Development

- Growing experience in developing responsive, dynamic, and user-friendly web applications with a focus on performance, accessibility, and intuitive interfaces.
- Proficient in frontend technologies such as HTML5, CSS3, JavaScript, and frameworks like React, alongside backend technologies including PHP and Node.js.
- Capable of integrating APIs, implementing client-server communication, and handling real-time data for fully functional web apps.
- Experienced in version control using Git/GitHub, collaborating in teams, and managing project workflows efficiently.

## Secure PHP Backend Engineering

- Skilled in developing robust and secure backend systems using PHP with proper authentication, session management, and input validation.
- Familiar with database interaction using MySQL/PDO, preventing SQL injection, and implementing secure data storage solutions.
- Experienced in designing modular backend architectures, implementing RESTful APIs, and integrating third-party services.
- Capable of managing server configurations, debugging backend processes, and ensuring high reliability and uptime.
- Strong understanding of security best practices, including password hashing, token-based authentication, and user access control.

## AI & Automation Integrations

- Experienced in designing and implementing AI-powered solutions to automate tasks, optimize workflows, and enhance decision-making processes.
- Skilled in connecting machine learning models, APIs, and business systems to deliver intelligent, data-driven applications.
- Proficient in integrating AI services for sentiment analysis, natural language processing, image recognition, and predictive analytics.
- Capable of managing data pipelines, preprocessing inputs, and deploying AI solutions for production environments.

## System Design

- Experienced in architecting scalable, maintainable, and efficient software systems with a focus on reliability and performance.
- Proficient in analyzing requirements, designing modular components, and optimizing workflows for distributed and cloud-based applications.
- Skilled in creating technical diagrams, defining system interactions, and planning for scalability and fault tolerance.
- Strong understanding of design patterns, software architecture principles, and trade-offs in system performance, maintainability, and cost.

## API & Database Architecture

- Skilled in designing RESTful APIs and managing database systems for robust, data-driven applications.
- Experienced in structuring relational databases (MySQL, PostgreSQL) and NoSQL databases for performance and scalability.
- Capable of handling complex queries, indexing, transactions, and ensuring data integrity and consistency.
- Proficient in connecting frontend and mobile applications to backend services via APIs and ensuring secure, efficient communication.
- Strong understanding of database optimization, query performance tuning, and API versioning for long-term maintainability.
- Continuously expanding knowledge in modern database architectures, cloud storage solutions, and API development best practices.

## PROJECTS

- **E-commerce Platform** • Developed a fully functional e-commerce website with secure payment integration
- **Assistive Voice Assistant (Android)** • Designed and built an engaging corporate identity website for a client
- **Inventory Management Mobile App (Kotlin)** • Currently working on an Android application using Kotlin Jetpack
- **Document Scanner & Object Recognition (ML Kit + CameraX)** • Built an accessible Point of Sale system for Agriwise Businesses to Manage Sales, Inventory, Customers and Reporting with Ease
- **Daily Activity Tracker Bot** • Developed a comprehensive School ERP System for managing and administering tasks
- **Personal Portfolio** • GitHub activity graph integration, deployed on GitHub Pages
- **Agricultural Inventory Management App (Android • Kotlin)** SQLite/Room-based app for farmers to track inventory, categories, units, daily spending & farmer records using repository pattern and coroutines