

RICHARD KWAKU OPOKU

Computer Science & Engineering Student

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PROFESSIONAL SUMMARY

Passionate Computer Science & Engineering student building across full-stack web, embedded systems, and UI/UX. Deliver production-ready applications, architect secure REST APIs, prototype IoT experiences with Arduino/ESP32 and Proteus, and drive user-focused design iterations. Active contributor to developer communities, open source, and robotics teams. Seeking an internship or entry-level role where software and hardware intersect.

EDUCATION

Bachelor of Science in Computer Science & Engineering

Expected Graduation: 2027

University of Mines and Technology (UMaT), Tarkwa, Ghana

Relevant Coursework: Data Structures & Algorithms, Software Engineering, Database Management Systems, Web Development, Microcontrollers and Microprocessors, Object-Oriented Programming, Systems Design

TECHNICAL SKILLS

Programming Languages

JavaScript, Python , HTML5/CSS3 , SQL , Java, C/C++ (Embedded)

Frontend Development

React.js, React Native, Modern CSS3, Responsive Web Design, Progressive Web Apps (PWA), UI/UX Design Principles, Figma, Canva

Backend Development

Node.js, Express.js, Python Flask, RESTful API Design, GraphQL basics, JWT Authentication, Session Management, Database Design & Optimization

Databases

MongoDB, Microsoft SQL Server, MySQL, PostgreSQL basics, Supabase

Tools & Technologies

Git/GitHub, VS Code, Postman, npm/yarn, Vercel, Netlify, Supabase, A-Frame (WebVR), FFmpeg, Docker basics

Design & Multimedia

UI/UX Design, Wireframing & Prototyping, Graphic Design, Figma, Canva

Hardware & Embedded

Arduino, ESP32, Sensors/Actuators, Circuit Design(Proteus)

PROFESSIONAL EXPERIENCE

Full Stack Developer | Personal Projects

2022 – Present

- Architected and developed 6+ production-ready web applications using modern JavaScript frameworks and backend technologies
- Implemented RESTful APIs, database schemas, and authentication systems serving multiple concurrent users
- Designed responsive user interfaces with focus on accessibility and cross-browser compatibility
- Managed complete software development lifecycle from requirements gathering to deployment and maintenance
- Contributed to open-source projects through code reviews, bug fixes, and feature implementations • Utilized version control (Git) and collaborative development workflows for all projects

KEY PROJECTS

Universal Video Downloader

React, Node.js, Express.js, FFmpeg, RESTful API

[Live Demo](#)

- Developed a comprehensive web application supporting video downloads from 5+ platforms including YouTube, Instagram, TikTok, Twitter, and Facebook
- Implemented batch download functionality allowing users to queue multiple videos simultaneously
- Engineered media management features including format conversion, quality selection, and download history
- Built scalable backend API with Node.js and Express.js to handle concurrent download requests
- Integrated FFmpeg for video processing and format conversion capabilities
- Designed intuitive React-based frontend with real-time download progress tracking

StudyMate – AI-Powered Study Assistant

React, AI APIs, CSS3, Vercel

[Live Demo](#)

- Designed and developed an educational platform leveraging AI to provide personalized study assistance
- Implemented AI-powered features including question answering, concept explanation, and study material generation
- Created responsive, modern UI with seamless user experience across desktop and mobile devices
- Integrated third-party AI APIs to deliver intelligent study recommendations and content
- Deployed on Vercel with continuous integration for automated testing and deployment
- Optimized application performance achieving sub-2-second load times

Inventory System Management

Node.js, Express.js, Microsoft SQL Server, JWT Authentication

[GitHub Repository](#)

- Built comprehensive backend system for chemical factory managing inventory, employees, and operations
- Designed and implemented RESTful APIs for real-time inventory tracking, reporting, and analytics
- Developed robust authentication system using JWT tokens for secure access control
- Created normalized database schema in SQL Server ensuring data integrity and optimal query performance
- Implemented role-based access control (RBAC) for different user permission levels
- Generated automated reports for inventory levels, employee performance, and operational metrics

School Management System (SDMS)

Python Flask, Microsoft SQL Server, HTML5/CSS3

[GitHub Repository](#)

- Created full-featured CRUD application for school administration managing students, staff, and courses
- Designed relational database schema with proper normalization and foreign key relationships
- Implemented secure user authentication and session management for admin and staff access
- Built responsive frontend templates using HTML5, CSS3, and Jinja2 templating
- Developed features for student enrollment, grade management, attendance tracking, and report generation
- Applied MVC architecture principles for maintainable and scalable codebase

3D Virtual Environment

A-Frame, WebVR, JavaScript, HTML5/CSS3

[GitHub Repository](#)

- Created immersive 3D virtual environment with interactive furniture models and animations • Implemented 360-degree panoramic backgrounds for realistic spatial experience
- Developed real-time user interactions including object manipulation and navigation controls
- Optimized 3D rendering performance for smooth experience across devices
- Applied WebVR principles to create accessible virtual reality experiences in web browsers

Breast Cancer Companion App

React Native, Expo SDK, Supbase, Educational Platform

[GitHub Repository](#)

- Developed educational companion application focused on breast cancer awareness and support
- Created comprehensive resource database covering symptoms, screening guidelines, and prevention methods
- Designed user-friendly interface for easy access to medical information and support resources
- Implemented content management system for healthcare professionals to update information
- Prioritized privacy and sensitivity in handling health-related user data

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Google Developer Groups On Campus – UMaT Chapter | Organizer & Member

- Organize and facilitate technical workshops, coding sessions, and tech talks for student developers
- Lead community-building initiatives promoting collaboration and knowledge sharing
- Engage with Google technologies including Cloud Platform, Firebase, and Android development
- Mentor junior students in software development best practices and career guidance

Amalitech Coding Club | Active Member

- Participate in weekly coding challenges and competitive programming exercises
- Collaborate on group projects applying agile development methodologies
- Contribute to peer learning through code reviews and technical discussions
- Assist in mentoring new members on programming fundamentals and problem-solving

Aaenics Robotics Club | Participant

- Engage in robotics projects combining hardware and software engineering
- Participate in robotics competitions applying embedded systems knowledge
- Apply engineering design principles to develop practical solutions for real-world problems

ADDITIONAL ACHIEVEMENTS

Open-Source Contributions

- Contributed code improvements, bug fixes, and documentation to multiple GitHub repositories
- Actively participate in collaborative development practices including pull requests and code reviews
- Maintain personal portfolio of open-source projects with detailed documentation

Portfolio Development

- Developed feature-rich portfolio website (roidev.vercel.app) with dark/light mode, project showcases, and interactive elements
- Deployed multiple projects on cloud platforms with continuous integration pipelines

CERTIFICATIONS

The Full Stack Web Development Bootcamp (Frontend & Backend)

Udemy

Instructors: Faisal Zamir & Zafri Code

The Complete JavaScript Course: From Zero to Expert

Udemy

Instructor: Sara Academy

SOFT SKILLS & LANGUAGES

Professional Skills: Problem-solving & Analytical Thinking, Team Collaboration & Communication, Project Management & Time Management, Adaptability & Quick Learning, Attention to Detail, Creative Design Thinking, Mentoring & Knowledge Sharing

Languages: English, French (Basic)