Emmanuel Oppong

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Education

Grambling State University Grambling, LA

Major**: Computer Science, **Honors**: President's List - Fall 2024, **GPA**: 4.0* ***Expected May 2028

Technical Skills

Languages: C/C++, TypeScript, JavaScript, Python, HTML/CSS, C#, MatLab, Dart
Frameworks, Libraries & Technologies: React.js, Node.js, Express.js, Next.js, Flutter
Developer and Database Tools: VS Code, Postman, Docker, Visual Studio, PyCharm, GitHub, Unity 3D, Android Studio, Jasmine, Jest, React Testing Library, MongoDB, Firebase, SQL, SQLite
Certifications: J.P. Morgan - SWE Job Simulation, ALX Frontend Developer Certificate

Experience

Software Engineering Intern Feb 2025 – April 2025

Buzz Mobility, *Remote*

- Designed and integrated mobile payment features using the PayStack API, implementing secure transaction protocols and API integration, enhancing transaction reliability, and driving a 20% increase in daily transactions.
- Engineered front-end optimizations, leveraging webpack for code-splitting and dynamic imports, along with Intersection Observer API for lazy loading, reducing initial load times by 30%.
- Implemented comprehensive unit and integration tests for mission-critical components using Jest and React Testing Library, improving code coverage by 40% and reducing production bugs by 25%.

Research Assistant Jan 2025 – May 2025

Grambling State University, *Grambling, LA*

- Accelerated multi-core algorithm performance by 45% through benchmarking and parallelizing classic sorting and search algorithms in C++ and Python using OpenMP, while designing runtime visualizations with Matplotlib & NumPy to support a peer-reviewed systems performance paper.
- Implemented low-level memory fence operations for x86 hardware in the C-for-all language, preventing compile-time reordering and enabling safer concurrent execution across compiler optimizations.

Software Development Intern May 2024 - August 2024

BuildQL, *Remote*

- Co-developed an e-learning application with an integrated IDE using Monaco Editor and Docker containers, increasing accessibility to programming education for 200 users and reducing setup time by 30%.
- Integrated YouTube video hosting via the YouTube Data API, enabling dynamic embedding of instructional videos, resulting in a 20% increase in user engagement and a 40% improvement in course completion rates.

Projects

MediConnect | *MongoDB, React, Node.js, Express.js, CSS*

- Developed a responsive healthcare web app using MERN stack, designing a RESTful API for patient data and appointments, optimizing performance to handle 100+ concurrent users with 98% uptime.
- Optimized MongoDB database performance by 20% through advanced indexing, efficient data modeling, and query optimization, ensuring rapid retrieval of patient records and real-time appointment scheduling.
- Implemented secure JWT-based authentication with bcrypt for password hashing and role-based access control, ensuring secure user management and reducing unauthorized access incidents by 50%.
- Developed a real-time chat interface using WebSockets and Socket.IO, enabling instant communication between patients and healthcare providers, resulting in a 35% increase in user engagement and 40% improvement in patient satisfaction scores.

Journie | *Next.js, JavaScript, TypeScript, MongoDB, CSS*

- Developed a cross-platform journaling application using Next.js and TypeScript, achieving 40% faster server-side rendering and enhanced type safety, reducing runtime errors by 28%.
- Optimized application performance by implementing server-side caching with Redis, significantly decreasing initial load times by 35% and improving overall responsiveness.
- Implemented a rich text editor with 5 customizable formatting options and a responsive design using CSS Grid and Flexbox, boosting user satisfaction by 15% across all device types.