DANIEL AMOAKO FRIMPONG

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EDUCATION

University of Southern California   Los Angeles, California
MSc. Computer Science   August 2024-May 2026
Relevant coursework: Databases, Analysis of Algorithms, Machine Learning, Autonomous-CyberPhysical systems, Web technologies

Ghana Communication Technology University   Accra, Ghana
Bachelor of science in Information Technology   January 2018-October 2021
GPA: 3.68
Relevant Coursework: Algorithms, Operating Systems, Artificial Intelligence, Web Technology, Compilers & Translators, Java

TECHNICAL SKILLS

Python, JavaScript, C++, HTML, CSS, Swift, Typescript React, Node.js, Bootstrap, Tailwind, Angular, Git, GitHub, AWS, Azure, MongoDB, Arduino, Embedded systems, Flutter, Next.Js, IOS, SwiftUI, bash, Linux, Android

PROFESSIONAL EXPERIENCE

Cadi Media   Accra, Ghana
Frontend Web Developer   June 2020-April 2024
- Built responsive front-end interfaces using **React** and managed **server-side logic** with **Node.js** and **Express**.
- Developed web applications for schools that enabled parents to securely log in and view their children's academic performance and grades
- Integrated **RESTful APIs** with **Node.js** and **Express**

Coderina Edtech Foundation   Accra, Ghana
Lead Robotics Trainer   June 2020-April 2024
- Taught robotics, programming, and embedded systems to students from 50+ high schools across 5 regions in Ghana using VEX, LEGO EV3, and Arduino kits.
- Taught 350 students from government schools, private schools, and orphanages.

The Makersplace   Accra, Ghana
STEM Facilitator   October 2022-January 2024
- Trained 15 students on TinyML applications in smart agriculture, utilizing Raspberry Pi Pico and Edge Impulse to develop solutions aimed at maximizing crop yields.
- Built Makersplace website **admin dashboard** using **React.js, Node.js** and **MongoDB** enabling non-technical staff to easily update content, reducing maintenance time and improving site accessibility.

PROJECTS

Prime Engine   January 2025
- Developed a **C++ physics engine** that featured **AABB-based collision detection, realistic mass** and **gravity effects,** with **debugging visualizations.**
- Built an **efficient rendering function** that displays objects within the camera's view, optimizing performance implementing frustrum culling

Weather Application   September 2024
- Developed and deployed two weather applications: a **Swift-based mobile app** and an **Angular web app** integrating **Google Maps, IPInfo,** and **Tomorrow.io APIs** for **geolocation**, **weather data**, and real-time interactions
- Designed and implemented a **Node.js** backend with **MongoDB** to store and manage weather data for saved locations.
- Deployed the application on **Azure Cloud**, leveraging **MongoDB** Atlas for scalable cloud-based **NoSQL** data management.

GSM-Based Arduino Farm Monitoring System   January 2022
- Developed a comprehensive remote farm management solution deploying **Arduino**, GSM, and **sensors** to deliver **real-time data** like soil moisture, temperature, humidity, and NPK data
- Developed a practical solution for remote farm monitoring in rural Ghana by leveraging GSM and SMS functionality using 2G networks, ensuring robust coverage where higher-speed mobile data (3G/4G) is unreliable or unavailable.

LEADERSHIP AND INVOLVEMENT

MTN Foundation,   Aburi, Ghana
MTN Yello Care Volunteer   May 2024-June 2024
- Facilitated workshops on **3D printing** and Physical computing using **Arduino** and **Raspberry Pi**, empowering 30 teachers and students with hands-on experience and knowledge
- Constructed an IOT **smart borehole** using **Arduino**, **water pump**, and **turbidity/pH sensors**, with a **wireless control interface** developed for **Android**.