STEPHEN BASOAH DANKYI

stedankyi@gmail.com | Website | Phone: +233541646876 | Location: Spintex, Accra, Ghana

EDUCATION AND CERTIFICATIONS

Kwame Nkrumah University of Science and Technology | Kumasi, Ghana
BSc. Telecommunications Engineering (September 2016 – September 2020) | Second Class Honours (Upper Division)

- *Thesis:* "A Review on Antennas and a design of a tri-band PIF Antenna for IoT applications".
  (Focused on research of wireless transmission protocols, signal integrity, and antenna design)

AWS Certified Cloud Practitioner | AWS Services (2026)

PROFESSIONAL EXPERIENCE

ENGEL Austria (via *getINNOtized GmbH, Ghana*) | Mid-Level Software Engineer (Contract | Remote)
Nov 2024 - Present

- Engineered secure, high-availability industrial server applications using C++ and POCO libraries, guaranteeing continuous operational continuity for manufacturing plant machinery.
- Diagnosed and resolved 10+ critical system faults and minimized CPU overhead by leveraging Valgrind, GDB, and Visual Studio profilers, reducing startup time by 15% and achieving near 99.9% uptime for core modules.
- Architected CMake workflows for cross-platform deployments, accelerating build times by 15% across 3 distinct environments.
- Decreased technical debt by refactoring authentication and PLC service codebases, successfully isolating core logic and enhancing system maintainability.
- Automated backend processes and data workflows by developing Python and Bash scripts, drastically reducing manual analysis time.
- Queried complex backend databases using SQL and analyzed server logs, extracting clean datasets to monitor system anomalies.
- Facilitated the seamless roll-out, rigorous testing, and evaluation of new industrial applications and features within the backend development group.

Spark4Kids | Python Programming Tutor (Part-Time | Remote)
November 2023 - Present

- Translated complex Python programming concepts into accessible lessons for groups of 5-7 students, delivering personalized and tailored instruction for an average age group of 14 years.
- Maintained strict organizational data integrity by tracking and analyzing attendance and academic performance metrics, managing records for 20+ students per term across multiple sessions.

Cambridge Crystallographic Data Centre (*via Orgmento, Ghana*) | Software Engineer (Full-Time | Remote)
July 2022 - Nov 2024

- Designed and deployed high-performance, cross-platform research software using C/C++ and Qt 5 & 6, directly enabling 2 new areas of pharmaceutical drug discovery.
- Enhanced the crystal packing similarity algorithm within CCDC Mercury, accelerating crystal structure prediction by up to 30,000x to facilitate the analysis of massive molecular datasets.
- Boosted scientific researcher productivity by 60% by creating SWIG wrappers that bridged C++ functionalities with Python scripting, enabling automated integration with modern data science stacks.
- Integrated comprehensive telemetry and data-logging into 8 enterprise applications to track performance and analyze usage trends from 5,000+ users, driving an 80% increase in visibility for evidence-based feature prioritization.
- Developed Jupyter Notebooks and Python demonstration scripts to profile molecular datasets, showcasing the capabilities of the CSD Python API to development teams and pharmaceutical researchers.
- Partnered with business stakeholders to deliver custom software solutions, offering expert technical consultation and critical staff augmentation for specialized projects.
- Maintained daily development operations on Linux (Debian/Ubuntu) utilizing CLI tools to monitor system resources, while optimizing cross-platform data flow with advanced SQL queries.

Mizpah Vine Ark School | Academic Tutor and Administrative Assistant (Part-Time | Kumasi)
January 2022 - July 2022

- Tutored a cohort of 30+ students in Mathematics and Science using the Pearson Edexcel British Educational Curriculum, delivering individualized guidance that achieved a 95% pass rate in final examinations..

- Streamlined employee data administration and school operations, designing custom management solutions in Microsoft Power Apps and Dynamics (Portals).
- Analyzed attendance and grading databases for over 100 students to identify academic trends, deploying targeted one-on-one interventions that measurably improved test scores in weak subject areas.
- Established efficient administrative procedures for progress reporting and resource distribution, while cultivating a structured, feedback-oriented learning environment.

Kwame Nkrumah University Science and Technology | T**eaching and Research Assistant (Full-Time | Kumasi)**
September 2020 -September 2021
- Simulated 15+ experimental antenna iterations using Ansys HFSS, successfully validating research hypotheses and reducing physical prototyping costs by approximately 80%.
- Conducted comprehensive literature reviews to identify emerging telecommunications trends, collaborating with a cross-functional team to define the department's long-term research roadmap.
- Managed complex grading logistics and attendance tracking for multiple university courses, providing individualized support to a student body of over 100 individuals.
- Spearheaded technical mentoring and coding sessions for engineering students via The Faculty Code Hub.
- Optimized facility operations by maintaining rigorous equipment logs and tracking research materials for the faculty computer laboratory.
- Partnered with faculty lecturers to design high-quality instructional materials and rigorous academic assessments.

Ghana Grid Company | Junior Telecommunications Engineer (Internship | Takoradi, Ghana)
June 2019 - Aug 2019
- Managed PLC telephony and SCADA networking infrastructures across 4 critical substations in 3 regions, ensuring 100% uptime for operational data flow and emergency communications.
- Executed rigorous quality assurance on 200km of fiber optic networks, proactively identifying signal degradation trends to maintain 99.9% data reliability.
- Diagnosed and resolved complex inter- and intra-substation telecommunication faults by analyzing network logs, securing the reliability of high-voltage grid monitoring systems.
- Assisted in the physical deployment and system configuration of FOX 515/615 multi-service fiber optic communications equipment.
- Accelerated team onboarding by actively mentoring new interns in workplace ethics and core company technical competencies.

PROJECTS
- **Hardware Soft-Modding:** Leveraged tools like Pro CFW and HENkaku to exploit and soft-mod PS3, PS4, PSP and PSVita systems for homebrew games; flashed Custom ROMs via TWRP onto legacy mobile devices to extend hardware lifespan.
- **Arduino & Robotics:** Designed Arduino hobby projects including RFID attendance systems and temperature sensors; programmed Lego Mindstorms NXT robots (line followers, Rubik's cube solvers) with the Prempeh College Robotics Club.

TECHNICAL SKILLS
Programming & Scripting: C, C++, C# (.NET), Python (NumPy, Matplotlib, Pandas), JavaScript, Assembly (MIPS, x86, ARM), BASH.
Frameworks & Libraries: Qt 5 & 6, ASP.NET (Blazor), MudBlazor, Win32 API, Boost, SWIG, SignalR, POCO.
DevOps, Build & Debugging: Git, CMake, Conan.io, Docker, Azure DevOps/Pipelines, GitHub Actions, JetBrains TeamCity, Visual Studio, GDB, Valgrind (Thread/Address sanitizers).
Databases & Analytics: SQL (Microsoft SQL, PostgreSQL, SQLite), Firebase, Entity Framework, Dapper, Microsoft Power BI.
Software & Design Environments: MATLAB & Simulink, Microsoft Power Platform (Power Apps, Dynamics), Ansys HFSS, Adobe CC Suite, Lens Studio, 3D Modeling tools.
Hardware, OT & Networking: TCP/IP Protocols, Industrial Ethernet, Power Line Carrier (PLC) Telephony, SCADA Telemetry, HMI Data Integration, Fiber Optic/CAT 5 & 6 Cabling, Hardware Diagnostics & Assembly.
Operating Systems: Windows, Linux (Debian/Ubuntu), macOS, Virtual Server Environments.

MISCELLANEOUS COMPETENCIES
Cross-Cultural Collaboration: Experience working with international teams across Austria, the UK, and Ghana.
Languages: English (Fluent), Akan (Fluent), French (Basic), German (Basic)