
Bright Yanchirah

Senior Full-Stack Software Engineer & Solutions Architect

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EXECUTIVE SUMMARY

Senior Full-Stack Software Engineer and Solutions Architect with 7+ years of experience engineering high-performance web applications, distributed APIs, microservices, and cross-platform desktop and mobile systems. Proven track record leading products from concept to scale, including early startup Chief Technology Officer (CTO) experience and enterprise full-stack development across fintech, e-commerce, and logistics. Creator of 26+ production applications and developer platforms (such as Slatetrends, FlowStock ERP, and Ludwig Framework). Expert in modern TypeScript, React, Next.js, Node.js, Laravel, Python, Rust, PostgreSQL, Docker, and CI/CD pipelines, with a deep focus on architectural resilience, automated testing, and security compliance.

CORE COMPETENCIES & TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, PHP (8.2+), Python (3.8+), Rust, C#, SQL, HTML5, CSS3/Sass, Solidity

Frontend & Mobile: React.js (18/19), Next.js (14/15 App Router/RSC), Vue.js (3), React Native, Expo, Redux Toolkit, Tailwind CSS, Shadcn/ui, Electron, WinForms

Backend & Distributed Systems: Node.js, Express.js, NestJS, Laravel (11/12), RESTful APIs, GraphQL, WebSockets, Microservices, SOCKS5, TLS 1.3, Tokio, Serverless

Databases & Caching: PostgreSQL, MySQL, MongoDB, SQLite, Redis, Prisma ORM, Eloquent ORM, Database Indexing, Query Optimization, Data Modeling

DevOps, Cloud & Infrastructure: Docker, Docker Compose, CI/CD (GitHub Actions), AWS, DigitalOcean, Vercel, Linux/Unix Administration, Nginx, Shell Scripting, IT Operations

Security, Payments & Architecture: JWT, OAuth 2.0, Role-Based Access Control (RBAC), Mobile Money (MoMo) APIs, Paystack, Flutterwave, Stripe, GRA Tax Compliance, Web3/Ethers.js, Agile/Scrum

PROFESSIONAL EXPERIENCE

Senior Full-Stack Developer & IT Operations Engineer | Kwarleyz Group

2025 - Present | Accra, Ghana (Full-Time)

- Direct full-stack software development and enterprise IT operations across corporate business units, ensuring high availability, system resilience, and data integrity.
- Architect scalable internal web applications and secure API services using Node.js, NestJS, React, and TypeScript, automating cross-departmental business workflows.
- Manage IT infrastructure, system virtualization, and deployment pipelines utilizing Docker and CI/CD automation to optimize operational efficiency.
- Integrate secure financial gateways and enterprise third-party services (including Stripe payment processing), enforcing robust role-based access controls and audit logging.
- Collaborate with executive stakeholders to align technology initiatives with business objectives while maintaining stringent operational security standards.

Senior Full-Stack Developer | Afria Technologies

2023 - Present | Remote (Full-Time)

- Engineer and maintain high-traffic enterprise React.js and TypeScript applications for corporate and government clients, ensuring responsive UI and optimal core web vitals.
- Lead frontend architecture and design systems while engineering backend microservices in Node.js and Laravel to support high concurrent user loads.
- Architected and delivered key modules of Chekbuk / XCRO.io, an enterprise risk-mitigation and dynamic escrow platform featuring Web3 smart contract integration.

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- Implement automated testing suites using Jest and React Testing Library, reducing production regression rates and accelerating deployment cycles.

Senior Software Engineer & Former Chief Technology Officer (CTO) | M-HUB Technology

2017 - Present | Hybrid (Full-Time)

- Served as Chief Technology Officer (CTO) during M-HUB's early startup and incubation phase from 2017 prior to formal company incorporation in 2022, establishing technical roadmaps, architecture, and developer standards.
- Designed and launched the official M-HUB corporate web platform (m-hubtechnology.com), presenting technology consulting services and digital academy initiatives.
- Lead end-to-end full-stack engineering across client and internal products utilizing Next.js, Node.js, Express, and PostgreSQL, consistently delivering robust, responsive applications.
- Direct cross-functional squads of engineers and UI/UX designers, championing API design standards, PostgreSQL query optimization, and Agile development practices.

Lead Software Builder & Operations Manager | Yanestee Ventures

2020 - 2025 | Berekum, Ghana (Full-Time)

- Spearheaded commercial operations and built custom operational software systems that streamlined inventory tracking, sales reporting, and cash flow auditing.
- Architected and deployed FlowStock, an end-to-end Laravel ERP and POS solution featuring real-time stock reconciliation, multi-store support, and automated reorder alerts.
- Leveraged deep operational domain expertise to engineer bespoke software solutions that reduced shrinkage and boosted sales turnaround.

KEY ACHIEVEMENTS & TECHNICAL IMPACT

- 26+ Production Applications: Successfully architected, delivered, and maintained 26+ commercial applications and developer platforms across web, mobile, desktop, blockchain, and APIs.
- Proven Technical Leadership: Combined hands-on engineering with executive startup leadership, having served as Chief Technology Officer (CTO) for M-HUB through its foundational years.
- High-Impact African Market Solutions: Specialized in engineering resilient, offline-resilient, Mobile Money-integrated software solving acute market challenges in retail, fintech, tax compliance, and transit.
- Comprehensive Technical Versatility: Demonstrated mastery across modern full-stack architectures (Next.js 15, React 19, TypeScript, Node.js, Laravel 11/12, Python, Rust, C#, PostgreSQL, Docker, CI/CD).
- Open Source & Developer Tools: Authored Ludwig Framework and Laravel authentication starter kits to empower developers worldwide.
- Enterprise Architecture & Operations: Directed full-stack development alongside critical IT operations, maintaining robust security, automated pipelines, and 99.9% uptime.

SELECTED PROJECT PORTFOLIO & PRODUCTION SYSTEMS

Featured Flagship Platforms & Products

Slatetrends — National Business Discovery & Directory Platform [slatetrends.com]

Stack: Next.js 15, React 19, PostgreSQL, Prisma ORM, Leaflet Maps, TypeScript, JWT, Cloudinary | Status: Active production platform with live search and verified business listings.

slatetrends.com

- Architected a mobile-first directory empowering discovery and direct engagement with verified businesses across Ghana.
- Engineered owner management portal, business ownership claims, administrative verification workflows, and media management.
- Built geospatial search with interactive Leaflet mapping, radius filtering, business categorization, and opening-hour validation.
- Implemented high-coverage test suites verifying API authentication, role authorization, and PostgreSQL full-text search indexing.

M-HUB Technology Platform — Corporate Portal & Tech Academy Web Platform [m-hubtechnology.com]

Stack: Next.js, TypeScript, Tailwind CSS, Vercel | Status: Live production corporate web platform.

m-hubtechnology.com

- Created the flagship corporate web platform introducing M-HUB's software engineering services, tech consultancy, and academy programs.
- Engineered responsive UI with modern typography, interactive program exploration, and high-conversion client intake flows.

FlowStock Pro — Enterprise Inventory & Desktop POS System

Stack: Laravel 11, PHP 8.2, Electron 28, Tailwind CSS, MySQL, Docker, CI/CD | Status: Production-ready enterprise system with cross-platform desktop, web, and PWA capability.

- Engineered a full-featured ERP for retail, supermarkets, and distributors with offline-first desktop functionality via Electron.
- Designed and implemented RESTful APIs secured with JWT for rapid barcode scanning, multi-branch inventory sync, Mobile Money (MoMo) payments, and thermal receipt generation.
- Integrated Ghana Revenue Authority (GRA) tax compliance computation, audit logging, and automated replenishment alerts.
- Configured automated CI/CD pipelines with GitHub Actions and Docker containerization for automated cross-platform builds.

FlowStock V2 — Cloud-Native Inventory & POS Platform for SMBs [flowstock-v2.vercel.app]

Stack: Next.js 15, TypeScript, SQLite, Shadcn/ui, Tailwind CSS, WebSockets, Vercel | Status: Customer ready with 15+ modules complete and automated CI/CD.

flowstock-v2.vercel.app

- Rebuilt using Next.js 15 App Router and TypeScript with server-side rendering and a real-time analytics dashboard powered by WebSockets.
- Features POS checkout, inventory reconciliation, granular role permissions, and financial reporting.
- Automated deployment workflows via GitHub Actions and established unit/integration testing with Jest and React Testing Library.

FlowStock — Laravel ERP & Inventory Management System [flowstock.lippty.com]

Stack: Laravel 11, PHP 8.2, MySQL, Livewire, Tailwind CSS | Status: Deployed and actively powering commercial operations.

flowstock.lippty.com

- Powers commercial enterprises with real-time inventory tracking, multi-branch reconciliation, and POS sales workflows.
- Implemented Mobile Money (MoMo) payment integration, audit trails, and automated low-stock notifications.

TaxFlow Ghana — Automated Tax Calculation & Compliance Platform [tax-api-dashboard.vercel.app]

Stack: Next.js 15, Express.js, PostgreSQL, JWT, Node.js | Status: Production-ready platform and public developer API.

tax-api-dashboard.vercel.app

- Built a specialized engine and interactive dashboard for Ghanaian tax computation (VAT, PAYE, NHIL, GETFund, COVID Levy).
- Provides REST APIs and exportable compliance reports tailored for SMEs and accounting firms.

Chekbuk / XCRO.io — Institutional Risk Mitigation & Smart Escrow Platform [chekbuk.com]

Stack: React.js, Web3, Smart Contracts, Solidity, Node.js | Status: Live production platform serving fintech transactions.

chekbuk.com

- Engineered frontend architecture and smart contract interactions for dynamic transaction risk mitigation.
- Supports autonomous multi-sig escrow for high-value transactions (real estate, commodities, cross-border trade).

PrivyVPN — High-Performance Personal VPN & SOCKS5 Proxy

Stack: Rust (Tokio), Python, SOCKS5, TLS 1.3, Async I/O | Status: Production ready with 15/15 integration tests passing.

- Architected an asynchronous VPN daemon in Rust utilizing Tokio for zero-cost async concurrency and TLS 1.3 encryption.
- Engineered Python management CLI and web dashboard controlling 8 distributed server endpoints with strict zero-logging.

Enterprise, FinTech & E-Commerce Systems

Ghana API Hub — Centralized Developer Gateway & Sandbox

Stack: Next.js 14, Flask, Redis, JWT, Python | Status: 6 operational production APIs with interactive playground.

- Centralized gateway aggregating essential regional data feeds: fuel prices, Mobile Money account validation, GPS coordinates, exchange rates, and weather data.
- Built interactive developer playground with code snippets, rate limiting, and Redis caching.

Microservices Platform — High-Throughput Commercial API Platform

Stack: Node.js, TypeScript, MongoDB, Redis, Docker | Status: Production architecture complete, deployment ready.

- Engineered 10 decoupled microservices providing Paystack payment webhooks, WhatsApp messaging bots, and automated invoicing.
- Containerized with Docker Compose, featuring Redis message pub/sub and comprehensive OpenAPI documentation.

Sankofa Finance System — Offline-Capable School Financial Accounting Platform

Stack: Next.js 14, Express.js, PostgreSQL, Docker | Status: Core enterprise features complete, preparing deployment.

- Comprehensive school accounting system with student fee tracking, receipt generation, and offline-resilient local sync.
- Automated financial reconciliation reports and PDF invoice generation.

Lippty.com — Multi-Vendor Beauty & Retail Marketplace

Stack: Laravel 12, Vue.js 3, Tailwind CSS, Stripe, PayPal | Status: Backend complete, vendor onboarding in progress.

- Multi-tenant e-commerce ecosystem with independent vendor dashboards, commission settlement, and inventory synchronization.
- Integrated social commerce tools and multi-currency checkout.

1957autozone.com — Automotive Spare Parts E-Commerce Platform [1957autozone.com]

Stack: Laravel, Vue.js, Tailwind CSS, MySQL | Status: Launched and serving commercial automotive clients.

1957autozone.com

- Delivered full-stack e-commerce solution for auto parts with VIN-based filtering, inventory management, and digital ordering.
- Provides dealer administration portal and automated customer invoice delivery.

Graceland Construction Portal — B2B/B2C Corporate Construction & Roofing Platform

Stack: Next.js 15, React 19, Shadcn/ui, Tailwind CSS | Status: Live and deployed.

- Architected responsive corporate web portal featuring 45+ modular UI components, project quotation calculators, and portfolio showcases.

Mobile, GIS & Distributed Applications

DriveProfit — Driver Income Analytics & Expense Tracking Mobile App

Stack: React Native, Expo, TypeScript, AsyncStorage | Status: Production-ready Android APK prepared for Play Store launch.

- Built a mobile financial tracker for ride-hailing drivers (Uber, Bolt, Yango) in Ghana.
- Tracks daily revenues, fuel expenditures, maintenance amortization, and generates exportable profit analytics.

Revu File Manager — Cross-Platform File Organizer with Encrypted Vault

Stack: React Native, Expo, TypeScript, SQLite, AES-256 | Status: Core release complete, app store submission in progress.

- Engineered high-performance file management system with duplicate detection, categorized browsing, and an encrypted privacy vault.

Fare Estimator GH — Multi-Modal Public Transit Comparison Mobile App

Stack: React Native, Expo, TypeScript | Status: 8 screens complete, fare calculation engine active.

- Enables commuters to compare real-time costs across trotro routes, shared taxis, and ride-hailing platforms across Accra and Kumasi.

TRYST Platform — Event Planning & Live Audience Polling Platform [tryst-psi.vercel.app]

Stack: Next.js 14, TypeScript, MongoDB, NextAuth.js, Framer Motion | Status: Production ready.

tryst-psi.vercel.app

- End-to-end event platform with ticket booking, role-based administration, and a standalone real-time voting and audience polling engine.

Eldo Ethereum dApp — Decentralized Ethereum Transaction & Messaging Platform [eldo-five.vercel.app]

Stack: Solidity, Hardhat, Ethers.js, React.js, MetaMask | Status: Deployed on Ethereum testnet.

eldo-five.vercel.app

- Web3 decentralized application enabling peer-to-peer ETH transfers with on-chain encrypted metadata, message logs, and MetaMask integration.

Open Source Frameworks & Developer Systems

Ludwig Framework — Multi-Platform Developer Framework (Web, Desktop, IoT)

[github.com/NanaBright/ludwig]

Stack: Python 3.8+, CLI Architecture, Built-in ORM & Authentication | Status: v0.1.0 released on GitHub.

github.com/NanaBright/ludwig

- Architected an open-source framework unifying web services, desktop GUI, and IoT firmware development with zero external runtime dependencies.
- Features artisan-style CLI tooling, built-in ORM, and integrated authentication modules.

Ludwig Dashboard — Real-Time Business Intelligence & Analytics Dashboard

Stack: Python (Ludwig Framework), Chart.js, Tailwind CSS | Status: Complete demonstration platform.

- Real-time BI dashboard showcasing Ludwig Framework capabilities with dynamic charts, live metric updates, and responsive reporting layouts.

Laravel Authentication Starter Kits — Production-Grade Authentication & Authorization Kits

Stack: Laravel 11, React, Vue, Tailwind CSS, Sanctum | Status: Open source, actively maintained.

- Pre-configured authentication boilerplates supporting React, Vue, Blade, and API-only modes with Sanctum token security and role templates.

WeatherWave — AI-Enhanced Weather Forecast & PWA Application [weather-wave-chi.vercel.app]

Stack: Next.js 16, React 19, TypeScript, OpenWeatherMap API | Status: Live production application.

weather-wave-chi.vercel.app

- Progressive Web App combining real-time meteorological forecasting with AI-driven lifestyle recommendations and ambient music player integration.

PyMap — 16-Region Ghana Route Mapping & GIS Visualization

Stack: Python, Leaflet.js, Tailwind CSS | Status: Live GIS mapping tool.

- Interactive route visualization mapping campaign logistics across all 16 regions of Ghana with region-specific coordinate overlays.

Interactive Game Collection — Web-Based Classic Games with AI / Minimax Opponents

Stack: Next.js, React, TypeScript, Tailwind CSS | Status: 10 playable game engines complete.

- Suite of 10 classic board and puzzle games (Tic Tac Toe, Connect Four, Sudoku, Snake, 2048) featuring heuristic AI algorithms.

LinkShort — High-Throughput URL Shortener with Real-Time Analytics

Stack: Next.js 13, Prisma ORM, SQLite, Chart.js | Status: Production-ready web application.

- URL shortening service with GitHub OAuth, geolocation click analytics, dynamic QR code generation, and developer dashboard.

Contact Management CRUD — Desktop Enterprise Application (.NET WinForms) **[github.com/NanaBright/ContactCRUD]**

Stack: C#, WinForms, .NET, SQL Database, DLL Architecture | Status: Complete application.

github.com/NanaBright/ContactCRUD

- Architected enterprise C# WinForms application for robust contact management with clean separation of UI and SQL persistence via dynamic DLL libraries.

Contact Service Library — Reusable Service-Oriented Backend Architecture **[github.com/NanaBright/contact-us]**

Stack: C#, Class Library, .NET, Service Architecture | Status: Complete library.

github.com/NanaBright/contact-us

- Reusable C# class library implementing service-oriented architecture, database abstraction layers, and transaction handling.

EDUCATION & QUALIFICATIONS

University of Energy and Natural Resources (UENR)

Bachelor of Science, Mathematics | Aug 2013 - Jun 2017 | Sunyani, Ghana