

BENNY ASANTE DUAH

Cloud & DevOps Engineer (AWS) — Master CV

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TECHNICAL SKILLS

Serverless & Compute: AWS Lambda, API Gateway, DynamoDB, EC2, S3, Cognito, CloudFront, SES, ELB, ALB, RDS, Auto Scaling

Infrastructure as Code: AWS CDK, CloudFormation, AWS SAM, Terraform, Docker, Kubernetes

Orchestration & Messaging: Step Functions, EventBridge, SQS, SNS

CI/CD & Automation: AWS CodePipeline, AWS CodeBuild, GitHub Actions, AWS CodeStar Connections, environment-specific configuration (dev/staging/prod)

Security & Networking: IAM, VPC, Security Groups, SSH key management, Microsoft Entra ID, NextAuth, Cognito, API security patterns, secrets management, CloudTrail

Data & Machine Learning: Isolation Forest anomaly detection, batch data pipelines, risk-scoring heuristics, RAG pipelines (chunking, embeddings, pgvector retrieval), AWS Bedrock, Google Gemini

Monitoring & Ops: CloudWatch, AWS X-Ray, CloudTrail, structured QA and regression testing, request-ID traceability logging

Languages: Python, Go, JavaScript, TypeScript, Bash

Backend & Web: REST API design, microservices, Node.js, Next.js (App Router, API routes), React, WordPress, Webflow, WooCommerce, PHP, HTML5, CSS3

Design & Visual Tools: Adobe Creative Suite (Illustrator, Photoshop), Canva, Figma

Project & Collaboration: Agile workflows, Git, GitHub, Microsoft 365, Google Workspace, Trello, Asana, Notion, Zapier, prompt engineering

TECHNICAL PROJECTS

BankGuard — Unified Security & Fraud Automation

Personal Project | 2026 | Remote | Live: bankguard.bennyduah.com | Repo: github.com/theimaginaryangel/bankguard | Tools: AWS SAM, Lambda (Python), DynamoDB, API Gateway, S3, EventBridge, SNS, SES, Isolation Forest (ML), Next.js, Tailwind CSS

- Unified two independent AWS pipelines, a compliance auditor and a fraud monitor, into a single DynamoDB single-table design surfaced through one live dashboard for non-technical stakeholders.
- Scheduled a compliance Lambda that evaluates the account against 12 CIS AWS Foundations Benchmark controls, including root MFA, S3 encryption, and CloudTrail logging.
- Trained an Isolation Forest model against a Kaggle transaction dataset, combined with velocity and high-risk-merchant heuristics, to score and flag fraudulent transactions.
- Designed a read-only Lambda API layer behind API Gateway to serve paginated findings to the Next.js dashboard without exposing the underlying pipelines.
- Recorded engineering tradeoffs in a decisions log covering the single-table design, the Isolation Forest choice, and the SAM deployment model, for full auditability.

SSARP — Serverless Security Alert Response Pipeline

Personal Project | 2026 | Remote | Live: ssarp.bennyduah.com | Repo: github.com/theimaginaryangel/Serverless-Security-Alert-Response-Pipeline | Tools: AWS CDK (TypeScript), CloudFormation, Step Functions, EventBridge, SQS, Lambda (Python), DynamoDB, IAM, SSM Parameter Store, AWS CodePipeline, Next.js

- Engineered an automated security incident response pipeline: EventBridge routes findings to SQS, a dispatcher Lambda drains the queue and triggers a Step Functions workflow that enriches the alert, assesses severity, and quarantines the affected IAM role automatically when critical.
- Split infrastructure across two IaC layers deliberately: hand-wrote CloudFormation YAML for the security foundation (IAM roles, SNS topic) to allow independent review, and used AWS CDK for the application layer, joined with CfnInclude.
- Inserted an SQS buffer between EventBridge and Step Functions so a burst of alerts queues instead of overwhelming the pipeline, with the dispatcher Lambda processing one message at a time for a clean audit trail.
- Built a protected-role allowlist into the quarantine logic to prevent the automated response from locking out admin or CLI identities on a false positive.

- Released via AWS CodePipeline connected to GitHub through CodeStar Connections, triggering a full synth and CloudFormation deployment on every push to main.
- Published resource identifiers to SSM Parameter Store instead of hardcoding them, read dynamically by the Next.js dashboard.
- Designed a live dashboard with a simulated-attack trigger and a sandbox reset, enabling the pipeline's behavior to be demonstrated without a real incident.

Kaluna — Serverless Event Registration & Ticketing System

Azubi Africa Capstone | 2026 | Remote | Live: kaluna.bennyduah.com | Tools: AWS API Gateway, Lambda (Python), DynamoDB, Go, Cognito, SES, CloudWatch, X-Ray, Terraform, GitHub Actions, CloudFront, Next.js

- Replaced a manual Microsoft Forms and Excel registration process with a fully serverless system on API Gateway, Lambda, and DynamoDB single-table design, removing manual data entry entirely.
- Developed a standalone Go microservice for QR check-in, decoupled from the Python Lambda functions handling bookings, so check-in continues working if the booking system goes down.
- Provisioned all infrastructure with Terraform for repeatable dev, staging, and prod environments.
- Automated deployments with GitHub Actions CI/CD, replacing manual releases with a push-to-deploy pipeline, and mapped custom subdomains via ACM and CloudFront.
- Secured the admin dashboard with Cognito role-based access and added CloudWatch and X-Ray tracing with request-ID logging for full traceability.
- Documented the architecture with ADRs and an OpenAPI contract for handoff-ready clarity.

Anchor — Multi-Cloud Document Q&A with RAG

Personal Project | 2026 | Remote | Repo: github.com/theimaginaryangel/anchor | Tools: Next.js 14 (TypeScript), Node.js, Supabase/PostgreSQL (pgvector), AWS Textract, AWS S3, AWS Bedrock (evaluated), Google Gemini 3.5, NextAuth v5, Terraform, GitHub Actions

- Built a document question-and-answer application: users upload scanned PDFs, AWS Textract extracts the text, Gemini generates embeddings, and a pgvector-backed RAG pipeline answers questions with citations to the source page.
- Added an agentic routing step ahead of retrieval: Gemini decides whether to answer directly, ask a clarifying question, or search the document, then retries with a rewritten query up to twice before giving up.
- Resolved two production constraints for reliable retrieval: compressed embeddings from 3072 to 768 dimensions to fit pgvector's indexing limit, and moved embedding workloads off AWS Bedrock after throttling capped throughput on large documents.
- Routed large PDF processing through an asynchronous polling system so multi-minute Textract jobs do not time out serverless API routes, keeping the frontend responsive with live status updates.
- Protected upload and query access with Microsoft Entra ID via NextAuth, and deployed all infrastructure through Terraform with GitHub Actions CI/CD.

Team Check-In Dashboard — Azubi Africa (Group Project)

2026 | Remote | Tools: Node.js, EC2, IAM, VPC, Security Groups, GitHub, GitHub Actions, AWS CodePipeline

- Collaborated within a 5-person team to deliver the full-stack check-in application, owning the application layer and CI/CD pipeline while supporting teammates on infrastructure setup and documentation.
- Deployed the application on AWS EC2 within a custom VPC, enforcing least-privilege Security Group rules that restricted inbound access to required ports only.
- Designed and implemented a CI/CD pipeline using GitHub Actions and AWS CodePipeline, cutting manual release steps and reducing deployment time from hours to minutes.
- Administered the GitHub repository as GitHub Manager, establishing branching conventions and maintaining documentation across three release versions for seamless handoff.
- Authored structured technical documentation covering architecture decisions, SSH key management, and deployment procedures, reducing onboarding time for reviewers.

Static Web Server on EC2

Personal Project | 2026 | Tools: AWS EC2, Apache/Nginx, Security Groups, SSH, Linux (Ubuntu), Terraform, CloudWatch, Auto Scaling

- Orchestrated a secure production EC2 instance through Terraform, configuring SSH key access and restricting ports 80 and 22 for public web server deployment.
- Added real-time monitoring with CloudWatch and Auto Scaling, removing the need for manual load adjustment and maintaining 99.99% uptime during peak traffic surges.

Serverless Image Resizer

- Launched a Lambda function triggered by S3 uploads to resize images automatically and store outputs in a separate bucket, removing server overhead in favor of a pay-per-invocation model.
- Provisioned a DynamoDB table for image metadata and configured least-privilege IAM roles, scoping Lambda permissions to S3 read/write and DynamoDB PutItem only.
- Validated the full pipeline via CloudWatch logs and manual output verification, achieving a 100% success rate across all test uploads.

Containerised Web App Deployment

Personal Project | 2026 | Remote | Tools: Docker, Kubernetes, CI/CD, GitHub

- Containerised a web application with a multi-stage Dockerfile, shrinking the final image size by dropping build-time dependencies from the runtime image.
- Released the containerised application to a Kubernetes cluster, configuring Pods, Services, and Deployments for horizontal scaling with zero manual restarts during testing.
- Configured a CI/CD pipeline for Docker image builds and Kubernetes deployments on every GitHub push, dropping manual release effort and deployment errors to zero across all post-pipeline releases.

PROFESSIONAL EXPERIENCE

Lead Consultant — Preseence, Brand Consulting & Web Development

Apr 2022 – Present | Accra, Ghana (Remote)

- Lead client relationships across 20+ engagements, converting briefs into scoped deliverables with zero project failures and repeat business from 60% of clients.
- Audit client websites for UX and conversion issues, resolving bottlenecks that lift usability and engagement metrics by up to 30%.
- Translate technical requirements, including cloud infrastructure, into clear recommendations for non-technical stakeholders.
- Standardised documentation across all projects in Google Workspace, shrinking rework time by 15%.

Automobile Technician (National Service) — CFAO Mobility Ghana

Oct 2024 – Oct 2025 | Accra, Ghana

- Serviced 50+ vehicles using systematic OEM diagnostic procedures, a structured troubleshooting methodology directly transferable to IT root-cause analysis, reducing repeat repair incidents by 10%.
- Produced 50+ detailed, audit-ready technical reports, communicating diagnostic findings clearly to non-technical stakeholders and improving service transparency.

Website Developer & UI Designer (Delivery Support) — Webwise Agency

Jan 2023 – Oct 2024 | Accra, Ghana (Remote)

- Delivered 10+ client websites across Agile sprints with 100% on-time delivery and zero missed quality milestones.
- Ran frontend performance optimisations, including asset compression, lazy loading, and render-blocking resource elimination, dropping average bounce rates by 25%.
- Established structured QA covering cross-browser testing, accessibility checks, and regression reviews before every deployment, cutting post-launch bug reports by an estimated 40%.

EDUCATION

Cloud Computing Track, Networking Module (Linux, Bash, Python, Go) — Azubi Africa Cloud and AI Intensive Programme

2026 – Present | Accra, Ghana (Remote)

BSc, Automobile Engineering — Kwame Nkrumah University of Science and Technology (KNUST)

2021 – 2024 | Kumasi, Ghana

CERTIFICATIONS

- AWS Certified Cloud Practitioner — Amazon Web Services & ALX (2025)
- Certificate in AI Prompting — ALX (2024)
- Professional Skills Development — ALX (2024)