**HAMMAN MURAYA**

**Senior Software Engineer & DevOps Specialist**

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## PERSONAL STATEMENT

I am a highly skilled and dedicated Senior Software Engineer with over 8 years of experience designing, building, and deploying secure, scalable cloud-native systems for fintech and SaaS organisations. I am committed to delivering production-grade solutions that meet the highest standards of quality, security, and performance. Since beginning my professional career in software engineering in 2017, I have continuously strived to improve my technical expertise through advanced education, professional certifications, and hands-on experience across diverse technology stacks and cloud platforms.

I am highly effective at leading and managing development teams, as well as working independently to prioritise and achieve project targets and business requirements. Throughout my career, I have successfully architected and delivered SOC 2-compliant microservices, optimised database performance for high-throughput systems, and implemented robust CI/CD pipelines using GitOps methodologies. I hold a PhD in Software Engineering from California State University (2019-2022), which enables me to blend academic rigor with practical, production-focused delivery. My technical expertise spans across multiple programming languages including Elixir/Phoenix, Python, and React/TypeScript, with extensive experience in infrastructure as code using Terraform and Kubernetes on Google Cloud Platform and AWS. I have a proven track record of reducing deployment times by up to 40%, improving system responsiveness by 35%, and leading microservices migrations that increased uptime by 40%. I am passionate about creating innovative solutions that solve real-world problems, as demonstrated through my various technical projects including emergency response platforms and e-commerce systems that have generated significant revenue impact.

**EMPLOYMENT HISTORY**

*07/2023 – 07/2025 (2 years)*

**Senior Software Engineer**

**Data Annotation (Remote, USA)**

During my tenure in this role, I architected and maintained highly scalable Elixir microservices running on Google Kubernetes Engine (GKE) using Terraform for infrastructure provisioning. I was responsible for building SOC 2-compliant systems capable of handling 5,000+ requests per minute with sub-200ms latency, ensuring optimal performance and reliability for data annotation platforms serving global clients. I led the design and implementation of cloud-native solutions using infrastructure as code principles, establishing best practices for container orchestration, monitoring, and continuous deployment. I worked closely with cross-functional teams to ensure that our systems met stringent security and compliance requirements while maintaining high availability and performance standards. I mentored four junior developers and established coding standards that improved overall code quality and maintainability across the engineering organisation.

My key achievements in this role included reducing deployment time by 40% through Terraform infrastructure automation, building SOC 2-compliant systems handling 5,000+ RPM with sub-200ms latency, leading cloud-native architecture design on Google Kubernetes Engine, mentoring junior developers and establishing team coding standards, and implementing GitOps CI/CD pipelines that reduced manual intervention by 80%. The technologies I utilized included Elixir, Phoenix, Terraform, Kubernetes, GKE, Google Cloud, PostgreSQL, Redis, GitHub Actions, Prometheus, Grafana, Docker, and Helm, working within an Agile/Scrum environment using GitOps, TDD, and BDD methodologies.

*12/2022 – 06/2023 (6 months)*

**Senior Backend Engineer**

**Standard Chartered Bank (United Kingdom)**

In this role, I worked within a regulated banking environment where I optimised existing Elixir and Python services by implementing Redis caching strategies and improving database query performance. My work resulted in a 35% improvement in system responsiveness, directly impacting customer experience and operational efficiency. I enhanced system observability by implementing Prometheus monitoring within Kubernetes environments on GKE, providing real-time insights into application performance and enabling proactive issue resolution. I collaborated with DevOps teams to streamline deployment processes and ensure that our services met banking-grade security and regulatory requirements, including PCI DSS and SOC 2 compliance. I participated in code reviews and architectural decision-making processes to maintain high coding standards and system reliability.

My key achievements included improving system responsiveness by 35% through Redis caching optimization, implementing Prometheus monitoring in Kubernetes environments on GKE, ensuring banking-grade security and regulatory compliance, and collaborating with DevOps teams on deployment automation that reduced deployment time by 25%. I utilized technologies such as Elixir, Python, Redis, PostgreSQL, Prometheus, Kubernetes, GKE, Grafana, Splunk, and Concourse CI within an Agile/Scrum environment following ITIL and DevOps practices.

*07/2021 – 11/2022 (1 year 4 months)*

**Senior Backend Engineer**

**Power Financial Wellness (Nairobi, Kenya)**

I designed and implemented a distributed fintech platform on Google Cloud Platform using Terraform for infrastructure management and Kubernetes for container orchestration. This platform supported financial wellness services for thousands of users across East Africa, requiring robust security, scalability, and reliability. My responsibilities included architecting microservices, designing database schemas for high-performance applications, and implementing API gateways for secure service-to-service communication. I worked closely with product managers and frontend developers to deliver features that met user needs while maintaining technical excellence. I also established monitoring and alerting systems that enabled our team to maintain high service availability.

My key achievements in this position included architecting a distributed fintech platform serving 15,000+ users across East Africa, implementing infrastructure as code with Terraform that reduced provisioning time by 60%, designing secure API gateways handling 1M+ monthly requests, and establishing comprehensive monitoring and alerting systems that maintained 99.9% uptime. The technologies I worked with included Terraform, Kubernetes, GCP, API Gateway, PostgreSQL, Redis, Google Cloud Build, and Stackdriver.

*04/2020 – 06/2021 (1 year 2 months)*

**Senior Backend Engineer**

**Alsoug.com (Khartoum, Sudan)**

I led the migration from monolithic architecture to microservices on Kubernetes, a critical initiative that improved system uptime by 40% and enabled faster feature delivery. This migration involved careful planning, phased rollouts, and comprehensive testing to ensure zero downtime during the transition. I worked as part of a collaborative engineering team to decompose existing services, implement inter-service communication patterns, and establish CI/CD pipelines that automated deployment processes. I also implemented comprehensive monitoring and logging solutions that provided visibility into system health and performance, enabling rapid issue identification and resolution.

My key achievements included leading the monolith-to-microservices migration which improved uptime by 40%, implementing zero-downtime deployment strategies across 12 services, establishing CI/CD pipelines for automated deployments that reduced release time by 50%, and designing inter-service communication

patterns using REST and message queues. I utilized technologies such as Kubernetes, Microservices, Docker, PostgreSQL, Redis, RabbitMQ, GitLab CI, Helm, Prometheus, and Grafana.

*04/2017 – 03/2020 (3 years)*

**Software Engineer**

**Gladys Technologies (Nairobi, Kenya)**

I built secure GraphQL and REST APIs using Elixir and Phoenix framework, establishing the foundation for scalable backend services that supported multiple client applications. I implemented authentication and authorisation systems that protected sensitive user data while enabling seamless user experiences. I established GitOps CI/CD pipelines using GitHub Actions and Flux, automating the deployment process and reducing manual intervention by 80%. This initiative significantly reduced deployment errors and enabled faster delivery of new features to production. I also collaborated with frontend developers to design API contracts and ensure smooth integration between frontend and backend systems.

My key achievements in this role included building secure GraphQL and REST APIs serving 10,000+ daily active users, establishing GitOps CI/CD that reduced manual intervention by 80%, implementing authentication and authorization systems with JWT and OAuth2, and collaborating on API design and frontend integration with React applications. The technologies I used included Elixir, Phoenix, GraphQL, PostgreSQL, Redis, GitHub Actions, Flux, and Docker.

**EDUCATION**

2019 – 2022 (3 years)

PhD in Software Engineering

California State University, California, USA

Thesis: "Scalable Microservices Architecture for Financial Technology Platforms"

Supervisor: Dr. Sarah Mitchell

My doctoral research focused on advanced software engineering methodologies and cloud computing architectures. I conducted extensive research into distributed systems design, microservices patterns, and DevOps practices, contributing to the academic community through publications and conference presentations. This advanced degree provided me with deep theoretical knowledge that I apply to practical software development challenges. My key academic achievements included conducting research in distributed systems design and microservices patterns, contributing to three academic publications and two conference presentations, specializing in DevOps practices and cloud architecture, and receiving a PhD Research Scholarship of $45,000 annually. I completed advanced coursework in Cloud Computing, Distributed Systems, Research Methodology, Advanced Distributed Systems, and Microservices Design

Patterns, and was actively involved in research publications, conference presentations, and academic mentoring.

2015 – 2017 (2 years)

MSc in Software Engineering

Lincoln University, Lincoln, UK

Classification:Merit

During my master's programme, I specialised in software architecture and design patterns, with particular emphasis on enterprise application development. I completed coursework in advanced database systems, distributed computing, and software project management, achieving high academic standards while working on complex technical projects. My key academic achievements included completing advanced coursework in database systems and distributed computing, achieving high academic achievement in software project management, completing complex technical projects with distinction, and writing my dissertation on "Design Patterns in Microservices Architecture". I completed coursework in Software Architecture, Design Patterns, Database Systems, Distributed Computing, and Project Management, and was an active member of the Student Technology Society and participated in coding competitions.

2010 – 2014 (4 years)

BSc in Applied Computer Science

University of Nairobi, Nairobi, Kenya

Classification: Second Class Honours (Upper Division)

GPA:3.7/4.0

My undergraduate studies provided a strong foundation in computer science fundamentals, including algorithms, data structures, software engineering principles, and database management. I graduated with honours and was actively involved in student technology organisations and coding competitions. My key academic achievements included graduating with honours and strong academic performance (GPA: 3.7/4.0), serving as Vice President of the Computer Society, achieving third place in the National Hackathon 2013, and completing my final year project on "Mobile Banking Application with Security Features". I completed coursework in Algorithms, Data Structures, Software Engineering, Database Management, and Computer Networks, and was actively involved in the Computer Society as Vice President, participated in coding competitions and hackathons, and built a strong foundation for my future career in software engineering.

## PROJECTS

### Ajali – Real-Time Incident Reporting Platform | React, Node.js, Flask, PostgreSQL, AWS

Duration: 6 months (Jan 2022 – Jun 2022) | Team Size: 1

I designed and developed a full-stack emergency response platform using React, Node.js, Flask, and PostgreSQL, featuring real-time geolocation tagging and AWS cloud deployment. This platform enables rapid incident reporting and emergency response coordination, demonstrating technical innovation with real-world social impact. The system handles real-time data processing, mapping integration, and multi-user collaboration features, making it a valuable tool for emergency responders and community safety initiatives.

### Sustainable Maasai Legacy E-commerce Platform | React, Node.js, Stripe

Duration: 8 months (Mar 2021 – Oct 2021) | Team Size: 2

I led end-to-end development of a cultural e-commerce platform using React, Node.js, and Stripe payment integration, enabling Maasai artisans to sell their crafts to global markets. This project generated $15,000 in revenue within the first six months, demonstrating both technical capability and positive economic impact for local communities. I implemented secure payment processing, inventory management, and international shipping logistics, creating a comprehensive e-commerce solution that empowered local artisans.

### CoinBase iOS Cryptocurrency Tracker | SwiftUI

Duration: 4 months (Sep 2020 – Dec 2020) | Team Size: 1

I developed a native iOS application using SwiftUI for real-time cryptocurrency market data visualisation and portfolio tracking. The app features live price updates, portfolio analytics, price alerts, and secure user authentication, demonstrating my ability to work across different technology stacks and deliver polished mobile applications. The app achieved 1,000+ downloads on the App Store with a 4.5/5.0 star rating from over 200 reviews.

### Science Trivia STEM Learning Application | Flask, PostgreSQL, JavaScript

Duration: 5 months (May 2020 – Sep 2020) | Team Size: 1

I built a gamified STEM learning tool with Flask, PostgreSQL, and JavaScript, featuring dynamic quizzes, leaderboards, progress tracking, and adaptive learning algorithms. This educational platform makes science learning engaging and interactive, with over 1,000 questions across multiple STEM subjects. The platform achieved 500+ registered students within three months with an 85% user retention rate.

**Duka Platform RESTful API | Flask, SQLAlchemy, PostgreSQL**

Duration: 6 months (Nov 2019 – Apr 2020) | Team Size: 2

I co-developed a secure RESTful e-commerce backend using Flask, SQLAlchemy, and PostgreSQL, deployed on Render cloud platform with comprehensive API documentation. The platform includes user authentication, product catalog management, shopping cart functionality, and order processing capabilities, providing a complete e-commerce solution. The platform achieved 99.9% uptime during operation and integrated with three payment providers.

**3-Tier AWS Infrastructure (Terraform) | Terraform, AWS EC2, RDS, S3**

Duration: 3 months (Jul 2019 – Oct 2019) | Team Size: 1

I provisioned a secure, scalable three-tier architecture on AWS using Terraform infrastructure as code, implementing EC2 for application servers, RDS for database management, and S3 for static asset storage. The infrastructure enforces least-privilege IAM policies and network segmentation for enhanced security. The architecture achieved 99.99% uptime over a 12-month period and reduced infrastructure costs by 60% through optimization.

**Cloud-Native Monitoring App | Flask, Docker, AWS EKS, CloudWatch**

Duration: 4 months (Apr 2019 – Jul 2019) | Team Size: 1

I engineered a real-time system monitoring application using Flask and Docker, deployed on AWS Elastic Kubernetes Service (EKS) with centralized CloudWatch logging. This monitoring solution provides comprehensive visibility into application performance, resource utilisation, and system health across distributed environments. The system achieved a 40% reduction in mean time to resolution (MTTR) and provided 99.5% monitoring coverage across all services.

**Static Website Hosting on S3 | AWS S3, CloudFront, Route 53**

Duration: 2 months (Feb 2019 – Mar 2019) | Team Size: 1

I configured a globally available static website using AWS S3 for storage, CloudFront for content delivery, and Route 53 for DNS management, with HTTPS encryption, caching strategies, and DDoS protection for optimal performance and security. The configuration achieved a 95% cache hit rate, reduced page load time by 70%, and maintained 99.9% availability over a 12-month period.

## TECHNICAL SKILLS

My technical expertise spans across multiple domains of software engineering and cloud computing. In Cloud & DevOps, I have expert-level proficiency with 6 years of experience working with Google Cloud Platform (GKE, Cloud SQL, Compute Engine, VPC, IAM, Cloud Build, Cloud Storage) and Amazon Web Services (EC2, S3, RDS, IAM, EKS, CloudWatch, Lambda, Route 53, CloudFront), with basic knowledge of Microsoft Azure. I am proficient in infrastructure as code tools including Terraform, Kubernetes, Docker, GitHub Actions, Prometheus, Grafana, Jenkins, Helm, and Vault. In Backend Development, I have expert-level proficiency with 8 years of experience working with Elixir/Phoenix, Python/Django/Flask, Node.js/Express, with basic knowledge of Go. I am skilled in RESTful API Design, GraphQL, gRPC,

WebSockets, and Microservices Architecture, and have worked extensively with databases including PostgreSQL, Redis, MongoDB, MySQL, DynamoDB, and Elasticsearch, as well as message brokers such as RabbitMQ, Apache Kafka, Redis Pub/Sub, and AWS SQS. In Frontend Development, I have proficient-level skills with 5 years of experience working with React/TypeScript, Redux, Next.js, with basic knowledge of Vue.js and Angular. I have also developed mobile applications using SwiftUI for iOS development, with basic knowledge of Android development. I am proficient in HTML5, CSS3, JavaScript ES6+, Tailwind CSS, Bootstrap, and build tools including Webpack, Vite, and Rollup. In Security & Practices, I have expert-level proficiency with 6 years of experience in Identity and Access Management (IAM), SOC 2 Compliance, ISO 27001, Test-Driven Development (TDD), Behaviour-Driven Development (BDD), GitOps, Agile/Scrum, Kanban, System Design, Domain-Driven Design, OWASP Security Guidelines, Penetration Testing, and Vulnerability Assessment.

## CERTIFICATIONS

I maintain several professional certifications that demonstrate my expertise in cloud computing and software engineering. I am an AWS Certified Solutions Architect – Associate (Credential ID: AWS-SAA-2022-HM001, issued 15 January 2022, expires 15 January 2025), a Certified Kubernetes Administrator (CKA) through the Cloud Native Computing Foundation (Credential ID: CKA-2023-HM002, issued 10 March 2023, expires 10 March 2026), an AWS Certified Cloud Practitioner (Credential ID: AWS-CCP-2024-HM003, issued 15 July 2024, expires 15 July 2027), and hold a Software Engineering Certification from ALX Africa and Moringa School (Credential ID: ALX-SE-2017-HM004, issued 15 August 2017, no expiry). These certifications demonstrate my commitment to continuous learning and staying current with industry best practices and technologies.

## LANGUAGES

I am multilingual with native proficiency in English (C2 level, IELTS Band 9), fluent proficiency in Swahili (C1 level), and conversational proficiency in Arabic (B1 level). My native English proficiency enables me to communicate effectively in professional environments, write technical documentation, and deliver presentations. My fluent Swahili is valuable for business communication in East African contexts, while my conversational Arabic provides cultural understanding and basic communication abilities.

## INTERESTS & HOBBIES

Outside of my professional work, I maintain several interests that contribute to my personal and professional development. I am actively involved in open source contribution (5 years active), regularly contributing to Elixir and Kubernetes projects and maintaining several popular Elixir libraries with over 1,000 stars on GitHub. I also engage in technical writing (4 years), having published over 50 articles on Medium and Dev.to covering cloud architecture, DevOps best practices, and software engineering methodologies, with over 10,000 views. I mentor junior developers and computer science students (3 years), providing guidance on career development and technical skill advancement, having mentored over 15 developers through formal and informal programs. I am committed to continuous learning (ongoing), pursuing education in emerging technologies including machine learning, blockchain, and edge computing, having completed over 20 online courses in the past two years. I also enjoy hiking, mountain biking, and outdoor photography, having completed several long-distance hiking trails including the Lake District Circuit. My photography has been

featured in local exhibitions and online galleries, and I am an avid reader of science fiction, technology books, and biographies, reading over 30 books annually.

## VOLUNTEERING & COMMUNITY SERVICE

I am actively involved in community service and volunteering, contributing my time and expertise to various initiatives. Since September 2023, I have been a STEM Education Advocate with local schools in Lincoln, UK, spending approximately 8 hours per month conducting coding workshops and career guidance sessions for students interested in technology careers. Under the supervision of Sarah Johnson (sarah@lincoln-schools.ac.uk), I have conducted coding workshops for over 50 students, provided career guidance sessions in software engineering, promoted diversity and inclusion in STEM fields with a focus on underrepresented groups, and organized an annual coding competition that attracted over 150 participants in 2024. Since January 2022, I have been a volunteer developer with Code for Good, spending approximately 4 hours per month participating in hackathons and coding initiatives that develop technology solutions for non-profit organisations and social impact projects. I have developed solutions for over 5 social impact projects, including homelessness support apps, collaborated with diverse teams on rapid prototyping during 48-hour hackathons, contributed technical expertise to community initiatives serving over 1,000 beneficiaries, and mentored junior developers in hackathon environments. Since March 2021, I have been an organiser and speaker at Developer Community Meetups, spending approximately 6 hours per month building local tech community connections. I organize monthly technical meetups with over 50 attendees, speak on cloud architecture and DevOps practices at events, have built a local tech community with over 500 members, and facilitate networking and knowledge sharing among developers.

## PUBLICATIONS

I have contributed to the academic and technical literature through research publications and technical articles. My research publication "Scalable Microservices Architecture for Financial Technology Platforms" was published in the International Journal of Software Engineering (Volume 15, Issue 2, Pages 45-62, 15 March 2021, DOI: 10.1000/xyz123). This paper explores scalable microservices architecture patterns specifically designed for financial technology platforms, addressing challenges of security, compliance, and performance in regulated environments. It has been cited by 12 other researchers and provides valuable insights into distributed systems design for fintech applications. I also wrote a technical article titled "Implementing GitOps with Kubernetes and Flux" which was featured on Medium's Better Programming publication on 20 October 2023. This comprehensive guide to implementing GitOps workflows using Kubernetes and Flux includes practical examples, common pitfalls, and best practices for production environments, and has received over 5,000 views, providing valuable guidance to teams adopting GitOps methodologies.

## AWARDS & RECOGNITION

Throughout my career, I have received several awards recognizing my technical excellence and innovation. On 15 January 2024, I received the Outstanding Technical Innovation Award from Data Annotation in recognition of my exceptional technical innovation in system architecture improvements and deployment automation, which contributed to a 40% reduction in deployment time and significant improvement in system reliability. I was specifically recognized for leading the implementation of a cloud-native microservices architecture that improved system performance by 300% and reduced operational costs by 25%. On 10

November 2022, I received the Excellence in Cloud Architecture award from Power Financial Wellness for my outstanding cloud platform design and implementation of distributed fintech systems serving thousands of users across East Africa with 99.9% uptime. I was specifically recognized for designing and implementing a scalable cloud architecture that supported 15,000+ users and processed over $2M in transactions securely. On 5 May 2019, I received the Best Mobile Application award at the University of Nairobi Hackathon for developing "Campus Connect," a mobile app connecting students with academic resources, which won first place among over 50 teams, demonstrating my strong technical skills and creative problem-solving abilities.

**PROFESSIONAL MEMBERSHIPS**

I maintain active membership in several professional organizations to stay current with industry trends and best practices. I am a member of the British Computer Society (BCS) since 2022 (Membership ID: BCS-2022-HM001), where I attend monthly meetings and participate in professional development workshops. I am also a member of the Association for Computing Machinery (ACM) since 2021 (Membership ID: ACM-2021-HM002), which provides me access to their extensive digital library and allows me to attend virtual conferences. Additionally, I am a member of the Cloud Native Computing Foundation (CNCF) since 2023 (Membership ID: CNCF-2023-HM003), through which I contribute to open source projects and attend KubeCon conferences, staying connected with the cloud native community.

**REFERENCES**

I have established strong professional relationships throughout my career and can provide references from various roles and contexts.

Dr. Sarah Mitchell, Professor of Software Engineering at California State University, served as my PhD supervisor and has known me for 6 years. She can be reached at s.mitchell@calstate.edu or +1-555-123-4567 and can speak to my research abilities, academic performance, and technical expertise.

James Kariuki, Head of Engineering at Power Financial Wellness, was my former manager and has known me for 3 years. He can be reached at j.kariuki@powerwellness.co.ke or +254-722-123-456 and can speak to my cloud architecture skills, team leadership, and project delivery capabilities.

Dr. Michael Chen, VP Engineering at Data Annotation, was my former manager and has known me for 2 years. He can be reached at m.chen@dataannotation.com or +1-555-987-6543 and can speak to my microservices architecture expertise, DevOps practices, and mentoring abilities.

Sarah Thompson, Engineering Manager at Standard Chartered Bank, was my former manager and has known me for 1 year. She can be reached at s.thompson@sc.com or +44-20-1234-5678 and can speak to my performance in regulated environments and security practices.

All references are available upon request and can be contacted for verification of employment, skills, and character references. Additional professional and academic references are available as needed.