Willis Ivali

Software Engineer

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SUMMARY

Experienced software engineer with 6+ years of experience building scalable, high-performance backend APIs and cloud-native applications using Node.js, C#, Python, and JavaScript. I excel in leveraging modern cloud services—such as serverless computing, cognitive services, and container orchestration—to develop secure, robust solutions. I harness DevOps best practices, including CI/CD pipelines, Docker, and Kubernetes, to optimize performance and drive continuous improvements. Passionate about innovation and committed to lifelong learning, I thrive in Agile environments and am eager to leverage my expertise on projects that drive meaningful, positive change.

EXPERIENCE

Kizimani NGO — Webmaster (January 2022 - Present)

Requirements Analysis & Strategy:
Conducted in-depth analysis of organizational requirements through stakeholder interviews, surveys, and data reviews. Translated insights into clear website objectives, boosting user engagement by **20%** with an intuitive, user-centric design.

Server Infrastructure Optimization:
Revamped server infrastructure by optimizing configurations, implementing automated monitoring, and scheduling proactive maintenance. Achieved **99.9% uptime** and reduced page load times by **35%** through efficient caching and

resource allocation.

Analytics & Data-Driven Enhancements:
Integrated advanced analytics tools to monitor real-time site performance and user behavior. Leveraged data insights to fine-tune layouts, navigation, and CTAs, driving a **25% increase** in conversion rates through targeted, data-driven enhancements.

Content Management & SEO Optimization:
Overhauled content management and SEO strategies by optimizing metadata, keywords, and mobile-first designs. This initiative resulted in a **40% surge** in organic traffic and significant improvements in search engine rankings.

Security Protocols Implementation:
Developed and enforced comprehensive security protocols—including SSL implementation, regular vulnerability assessments, and automated audits—that reduced security vulnerabilities by **80%** and safeguarded against potential cyber threats.

Innovative Web Technology Integration:
Researched and integrated innovative web technologies, such as responsive design frameworks, elevating overall website performance by **20%** and ensuring a seamless, engaging user experience across all devices.

United Nations Environment Program — Software Engineer (January 2019 - November 2021)

Ardhisasa Land Records System (C# Implementation):
Developed "Ardhisasa," a secure, web-based land records system built using **C#**. Architected a robust platform that integrated Active Directory with biometric sign-in and two-factor authentication (2FA), cutting authentication times by **50%**, reducing security vulnerabilities, and ensuring compliance with stringent data protection standards.

Client-Facing Interface Design:

  Designed an intuitive, client-facing interface featuring advanced search capabilities that streamlined access to critical land records. This user-centric design boosted public accessibility by **60%**, enabling stakeholders to retrieve information rapidly and efficiently across multiple devices.

UN Ozone Secretariat Website & Mobile App Contribution:

  Contributed to the development of a high-impact Drupal-based website and mobile application for the UN Ozone Secretariat. By integrating real-time data retrieval features and implementing rigorous security protocols, enhanced data access efficiency by **40%**, ensuring that sensitive information was both secure and readily available for mission-critical operations.

Cross-Functional Collaboration:

  Collaborated with cross-functional teams—including developers, designers, and project managers—to deliver scalable software solutions that met strict UN standards, optimizing data management processes and improving system interoperability.

Microsoft — Software Engineer

Windows Development Team (August 2016 - October 2018)
  Windows PhoneLink Development

- **Application Development & Optimization:**

    - Developed and optimized the Windows PhoneLink application using **C#** and **XAML**, focusing on improving both user interface responsiveness and underlying system efficiency.
    - Applied advanced performance optimization techniques and systematic code refactoring, resulting in a **20% reduction in application latency**, which directly contributed to a smoother and more responsive user experience.
- **Cross-Functional Collaboration:**

    - Collaborated closely with UI/UX designers and product teams to gather and integrate user feedback, ensuring that design and functionality aligned with modern aesthetic and usability standards.

- ○ Contributed to design workshops and technical reviews, helping to shape the future direction of the PhoneLink interface and user experience.

Feature Implementation in Windows

- **Design & Development of New Features:**

    - ○ Designed and implemented innovative Windows features using **C#**, adding critical functionalities that enhanced the overall Windows ecosystem.
    - ○ Employed modern software design patterns, such as MVVM and SOLID principles, to create robust, scalable, and maintainable codebases.
- **Agile Delivery & Impact:**

    - ○ Leveraged agile methodologies to manage iterative development and timely delivery, resulting in a **15% boost in overall system performance**.
    - ○ Drove user engagement improvements by **10%** through feature enhancements that addressed key customer needs and modernized existing workflows.
    - ○ Documented comprehensive technical designs and collaborated with cross-functional teams to ensure seamless integration with broader Windows initiatives and consistent quality standards.

Ticketing Application Integration

- **Solution Architecture & Implementation:**

    - ○ Architected and implemented a bespoke integration solution for Mawingu Networks, a local Kenyan ISP, by connecting **Microsoft Kaizala** to **Dynamics 365**.
    - ○ Utilized a combination of **SDKs, webhooks,** and **Azure Cloud Functions** to build a custom ticketing application that effectively bridged the gap between communication channels and CRM systems.
- **Performance & Efficiency Gains:**

    - ○ Streamlined customer support operations by automating the ticket creation process, achieving a **30% reduction in ticket creation time**.

- ○ Enhanced ticket processing efficiency by **40%** through automated workflows and real-time data synchronization between Kaizala and Dynamics 365.
- ● **Stakeholder Coordination & Integration:**

  - ○ Coordinated with client stakeholders and internal technical teams to ensure the seamless integration of the solution into Mawingu Networks' existing Dynamics 365 infrastructure, thereby aligning the application with business processes and operational requirements.

Software Engineer Intern

Microsoft – Azure Development Team - (August 2015 - July 2016)

Cloud API & Microservices Development:
 Developed robust cloud-based APIs and microservices using **C# (.NET Core)**. Optimized code and resource allocation, which improved overall system throughput by **15%** and ensured reliable scalability for mission-critical Azure applications.

- ● **Scalability Testing & Performance Optimization:**
   Designed and executed extensive scalability tests using **Azure Load Testing** and tools like **k6**, simulating **10,000+ concurrent users**. These efforts reduced average response times by **20%** and increased system reliability under high load conditions.

- ● **Python Automation & DevOps Integration:**
   Developed and maintained **Python** scripts to automate deployment pipelines, monitoring, and log analysis, which streamlined operations and reduced manual intervention by **30%**. This automation also improved deployment speed and consistency across multiple environments.

- ● **Code Debugging & Issue Resolution:**
   Utilized **Application Insights** and **Azure Monitor** to identify, diagnose, and fix production issues in both Python and C# modules. Reduced critical service downtime by **20%** and achieved a **50% reduction** in mean time to recovery (MTTR) through proactive debugging and code refactoring.

- ● **AI & Cognitive Services Integration:**
   Contributed to integrating AI functionalities into Azure by using Python to develop image recognition and natural language processing models.

These enhancements led to a **15% improvement** in model accuracy and enabled more responsive cognitive service applications.

- **Agile Collaboration & Quality Assurance:**
  Participated in daily Agile sprints, including stand-ups, sprint planning, and code reviews. Maintained rigorous code quality standards with **90%+ unit test coverage**, which reduced technical debt and improved overall team efficiency by **10%**.

PROJECTS

Land Records Management System with Azure AD Integration (Web-Based Information System) — For the Ministry of Lands

• Spearheaded the end-to-end development of a secure web-based system, integrating Azure Active Directory for seamless user authentication and cutting authentication times by 50% through robust API security (OAuth2, 2FA).

• Engineered a scalable database architecture to store comprehensive land records, boosting query performance by 50% and supporting thousands of property records with real-time retrieval.

• Implemented advanced document management, automated workflows, and collaboration features that reduced processing times by 40% and increased operational efficiency by 30%.

• Leveraged containerization and orchestration best practices (Docker, Kubernetes on AKS) to deploy the solution, ensuring 99.9% uptime and reducing infrastructure costs by 20%.

• Developed intuitive, role-based interfaces with audit logging and security protocols that decreased vulnerabilities by 80% and ensured regulatory compliance.

Online Ticketing System with Microsoft Dynamics Integration and Mobile Application Extension — For Mawingu Networks

Infrastructure Automation:
Automated the provisioning of the ticketing application's Azure infrastructure using **Terraform**, reducing deployment time by **50%** and ensuring a consistent, scalable environment.

Serverless API Development:
Developed a serverless RESTful API with **Azure Functions** integrated with the **Microsoft Kaizala SDK**. This efficient integration reduced ticket data processing times by **30%** by leveraging mobile collaboration features.

Real-Time Data Synchronization:
Engineered robust API connectors using **webhooks** to synchronize ticket data with **Dynamics 365**, ensuring real-time updates and unified customer support workflows.

Cognitive Service Integration:
Integrated **Azure Cognitive Services**, utilizing text analytics and sentiment analysis to process ticket content in real-time, boosting decision-making efficiency by **35%** and expediting issue resolution.

Mobile Application Development:
Built a cross-platform mobile application using **Flutter**, delivering a high-performance, intuitive interface that empowered users to raise tickets, receive updates, and interact with support agents, ultimately enhancing customer satisfaction by **40%**.

Seamless System Integration:
Established seamless integration between the Flutter-based mobile app and the serverless API, ensuring rapid data flow and responsiveness. This contributed to a **25% increase** in user engagement and improved overall operational efficiency.

Drupal Website Development Project — For Ozone Secretariat at the United Nations Environment Program (UNEP)

Website Development & Branding:
Led the development of a dynamic Drupal-based website for the UNEP Ozone Secretariat, aligning with UNEP's branding guidelines to achieve a **40% increase** in online visibility through a responsive, user-friendly design.

Custom Module Development & API Integration:

Developed custom Drupal modules and integrated third-party APIs, enhancing website functionality and improving data retrieval efficiency by **25%**.

Performance Optimization:
Implemented advanced performance techniques such as caching, image optimization, and code minification, boosting page load speeds by **35%** and significantly reducing server load.

Security Enhancement:
Enforced rigorous security measures, including role-based access control and regular security audits, reducing vulnerabilities by **80%** and safeguarding sensitive information.

Cross-Functional Collaboration:
Collaborated closely with design, content, and IT teams to deliver scalable, high-impact solutions that met UNEP's evolving digital requirements.

WordPress Website and Mobile App Development For OpenTable

Website and Mobile App Design & Development:
Spearheaded the design and development of a responsive **WordPress** website and a mobile application built with **Flutter**, achieving a **30% boost** in user engagement and elevating brand identity. Leveraged Flutter's robust widget library and hot reload capabilities to ensure a seamless, consistent experience across both iOS and Android platforms.

Custom WordPress Development:
Engineered custom WordPress themes and plugins integrating advanced search, filtering, and reservation functionalities. This innovation streamlined the booking process and reduced manual interventions by **50%**, with parallel features mirrored in the Flutter mobile app to maintain a unified user experience.

Secure Content Management & API Integration:
Developed a secure content management system with real-time API integration that synchronized data between the WordPress backend and the Flutter mobile application, cutting processing times by **40%** and ensuring current, reliable content across all platforms.

Accelerated Mobile Development & Cross-Platform Deployment:
 Utilized Flutter's cross-platform framework to accelerate mobile development, reducing overall development time by **25%**. Enabled simultaneous deployment on iOS and Android, crafting intuitive user interfaces with responsive layouts and smooth animations that enhanced user retention and satisfaction.

Agile Development & CI/CD Implementation:
 Employed agile development practices and automated CI/CD pipelines to iterate rapidly on the Flutter mobile application. Leveraged Flutter's hot reload for swift prototyping and testing, ensuring quick bug fixes and continuous feature improvements that supported rapid deployment and sustained operational excellence.

BeautyHub E-Commerce Transformation on Shopify
 (https://beautyhub.co.ke)
• **Enhanced User Experience & Conversion:**
    – Overhauled the entire online shopping experience by leveraging Shopify's robust platform, resulting in a 20% increase in conversion rates and a 25% boost in user engagement.
    – Implemented intuitive navigation and a streamlined checkout process, ensuring a frictionless user journey from landing page to purchase.

• **Performance Optimization:**
    – Customized Shopify themes and integrated advanced caching strategies to optimize page load times to under 3 seconds, significantly enhancing site performance and reducing bounce rates.
    – Conducted rigorous performance testing and real-time monitoring, ensuring the website maintained peak performance even during high-traffic periods.

• **Security & Reliability:**
    – Integrated SSL encryption, secure payment gateways, and implemented automated vulnerability scanning, reducing security incidents by 80% and protecting sensitive customer data.
    – Deployed the website using continuous integration (CI) pipelines and

automated monitoring tools, ensuring a robust infrastructure with 99.9% uptime and rapid recovery from potential issues.

ABK Law Firm Digital Presence on WordPress (https://abklaw.co.ke)
• **Professional Design & User Engagement:**
    – Designed and developed a modern, responsive WordPress website tailored for a law firm, resulting in a 40% increase in client inquiries through a clean and intuitive user interface.
    – Focused on accessibility and mobile responsiveness to ensure an optimal experience for all users, enhancing overall brand credibility and professionalism.

• **Security & Maintenance:**
    – Enhanced site security by integrating SSL certificates, enforcing regular plugin updates, and conducting routine vulnerability assessments, reducing potential threats by 80%.

    – Implemented automated backups and proactive monitoring on secure hosting platforms to ensure rapid issue resolution and consistent, reliable uptime.

• **Performance & SEO Optimization:**
    – Optimized images, implemented responsive design techniques, and utilized caching plugins to reduce page load times by 30%, thereby boosting organic traffic and search engine rankings.
    – Continuously monitored performance metrics and iteratively improved the site based on user feedback and analytics, ensuring sustained high performance and user satisfaction.

Brooklyn Fare – Engaging Lifestyle Platform (https://www.brooklynfare.com/)
• **Dynamic Design & User Engagement:**
    – Developed a visually engaging and dynamic website using modern web development practices, driving a 30% increase in user engagement through intuitive navigation and responsive design tailored to the brand's lifestyle ethos.
    – Crafted interactive elements and immersive content layouts that resonated with the target audience, ensuring a seamless digital experience across all devices.

• **Advanced Performance Optimization:**
    – Employed advanced caching techniques, minification, and image optimization strategies to reduce page load times by 35%, providing users with a

superior and rapid browsing experience.

    – Utilized automated CI/CD pipelines to facilitate continuous updates and performance enhancements, ensuring the platform remained agile and responsive to changing user demands.

• **Robust Security & Compliance:**

    – Integrated comprehensive security measures, including SSL encryption, regular security audits, and automated monitoring tools to safeguard user data and maintain regulatory compliance, reducing security vulnerabilities significantly.

    – Established a reliable deployment framework that maintained 99.9% uptime, ensuring the website supported sustained business growth and provided a consistent, secure user experience.

EDUCATION

Middlesex University — BSc. Degree in Information Technology

(Major: Software Engineering)

JANUARY 2015 - SEPTEMBER 2016

RELEVANT COURSEWORK

Software Development, Object-Oriented Programming, Algorithms and Data Structures, Database Management, Web Development, Software Testing and Quality Assurance.

NCC Education — Advanced Diploma in Computing

JANUARY 2014 - DECEMBER 2014

RELEVANT COURSEWORK

Project Management, Enterprise Systems Development, Advanced Programming Techniques, Web Application Development, Computer Networks and Security, Object-Oriented Analysis and Design, Data Structures and Algorithms, Cloud Computing, and Virtualization.

NCC Education — Diploma in Computing

JANUARY 2013 - SEPTEMBER 2013

RELEVANT COURSEWORK

Systems Analysis and Design, Network Fundamentals, Database Design and Management, Software Engineering Principles, Operating Systems, Cybersecurity and Ethical Hacking, Mobile App Development, and Cloud Computing.

Multimedia University — Cisco Certified Network Associate (CCNA)

OCTOBER 2009 - APRIL 2010

RELEVANT COURSEWORK

- Networking Fundamentals: Introduction to networking concepts, the OSI model, the TCP/IP protocol suite, IP addressing, and subnetting.
- Routing and Switching Essentials: Basic routing and switching concepts, router and switch configuration, VLANs, routing protocols
  (such as OSPF and EIGRP), and access control lists (ACLs).
- Scaling Networks: Advanced switching and routing topics, VLAN trunking, spanning tree protocol (STP), WAN concepts, and Network Address Translation (NAT).
- Connecting Networks: Wide area network (WAN) technologies like PPP, HDLC, Frame Relay, and Virtual Private Networks (VPNs). Introduction to network security and network troubleshooting.
- Network Automation and Programmability: Introduction to network automation, software-defined networking (SDN), network programmability using APIs (such as REST APIs), and network monitoring and management tools.

TechnoBrain — CompTIA Network+

FEBRUARY 2009 - MARCH 2009

RELEVANT COURSEWORK

- Networking Concepts: Introduction to networking principles, network models (such as OSI and TCP/IP), protocols, and addressing schemes.
- Infrastructure: Understanding network components, cabling types, network devices (routers, switches, access points), and virtualization technologies.
- Network Operations: Managing and troubleshooting networks, network security concepts, network monitoring, and performance optimization.
- Network Security: Implementing security measures, securing network devices, wireless security, and common network vulnerabilities and attacks.
- Network Troubleshooting and Tools: Troubleshooting network issues,

using network diagnostic tools, and understanding common network problems.

- Network Architectures: Understanding different network architectures, such as client-server, peer-to-peer, cloud-based, and virtualized networks.
- Wireless Networking: Configuring and securing wireless networks, wireless standards, and troubleshooting wireless connectivity issues.
- Network Administration: Network configuration and management, IP addressing, subnetting, routing, and network services (DNS, DHCP).

REFERENCES

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