Willis Ivali

Software Engineer

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SUMMARY

As a results-driven software developer with over six years of specialized expertise in backend REST API development, I am committed to delivering scalable, high-performance solutions. I possess deep proficiency in creating robust APIs using Node.js and C#, and I leverage cloud technologies to ensure reliability and scalability. My experience spans the full lifecycle of API development, from design to deployment, with a focus on optimization and seamless front-end integration.

I have a strong command of Google Cloud services, including SQL Server and Google Firebase, which I utilize to build and maintain efficient, reliable database architectures. My technical expertise includes designing RESTful APIs that incorporate advanced security measures, such as authentication and authorization protocols while adhering to best practices in data modeling and API design patterns. Additionally, I consistently prioritize performance tuning to enhance API responsiveness and overall system efficiency.

In DevOps, I apply industry-standard practices to streamline software development processes. I am skilled in using continuous integration and continuous delivery (CI/CD) pipelines to automate testing, deployment, and monitoring. My proficiency extends to containerization and orchestration, leveraging tools such as Docker and Kubernetes. I am experienced in deploying and managing applications using Google Kubernetes Engine (GKE), ensuring smooth and scalable cloud-based solutions.

Working in Agile environments, I thrive in collaborative, cross-functional teams, contributing to iterative development cycles while maintaining a sharp focus on delivering high-quality software. My problem-solving abilities enable me to break down complex technical challenges and provide sound, actionable

recommendations. I am skilled at communicating with stakeholders across all levels, translating technical concepts into business value.

Driven by a passion for lifelong learning, I continuously update my knowledge of emerging technologies and market trends. I am dedicated to exploring innovative solutions that push the boundaries of software development. With a solid foundation in backend architecture, a deep understanding of Python and JavaScript, and extensive experience with cloud computing platforms and databases, I bring a well-rounded skill set that ensures the development of scalable, secure, and efficient software systems.

SKILLS

1. Backend REST API Development

- I specialize in designing and building RESTful APIs, particularly using Node.js and C#. My focus is always on creating scalable, high-performance APIs that support modern web and mobile applications.
- **Example**: When I was developing an API for a project, I structured it to handle millions of user requests efficiently, ensuring optimal performance even under heavy loads.

2. Cloud Computing (Google Cloud Services)

- I'm proficient with Google Cloud services like SQL Server and Firebase, which I use to build and manage reliable database structures in the cloud. This allows me to create systems that are secure, scalable, and resilient.
- **Example**: I once integrated Google Firebase into a real-time application, allowing the front-end to sync data instantly while maintaining a stable back-end infrastructure.

3. Database Design and Management

- I have extensive experience in designing databases, both relational and non-relational. I ensure my database designs are optimized for performance and scalability while following best practices.
- **Example**: In one project, I designed a relational database schema for an

e-commerce platform, optimizing queries to reduce load times and efficiently handle high transaction volumes.

4. API Security (Authentication & Authorization)

- I implement secure authentication and authorization mechanisms in my APIs, such as OAuth2 and JWT. Ensuring data protection and secure communication is always a priority in my development process.
- **Example**: For a recent project, I integrated OAuth 2.0 authentication to provide secure access for different user roles, preventing unauthorized access to sensitive data.

5. Performance Optimization

- I'm skilled in fine-tuning the performance of APIs by optimizing database queries, reducing latency, and scaling services to meet user demand. I regularly profile my systems to identify and eliminate bottlenecks.
- **Example**: I improved API response times by 40% in one project by analyzing and optimizing database queries and implementing caching strategies.

6. DevOps & CI/CD

- I leverage DevOps practices to automate the development process, using CI/CD pipelines to ensure rapid, reliable software delivery. This allows for faster feedback and shorter release cycles.
- **Example**: I set up a CI/CD pipeline that automated testing, building, and deployment for a cloud-based app, reducing deployment time by 70% and improving reliability.

7. Containerization and Orchestration

- I am experienced in containerizing applications using Docker and orchestrating them with Kubernetes. This enables me to deploy and manage applications efficiently across different environments.
- **Example**: In one project, I containerized several microservices using Docker and deployed them to Kubernetes, ensuring seamless scaling and failover in a production environment.

8. API Design Patterns and Best Practices

- I follow API design best practices, ensuring that my APIs are structured for maintainability, scalability, and ease of integration. I focus on clear documentation and logical endpoint design.
- **Example**: For an enterprise project, I designed a versioned API, allowing developers to integrate new features without breaking compatibility with the existing client applications.

9. Agile Development

- I'm well-versed in Agile methodologies, including participating in sprints, and daily stand-ups, and delivering work incrementally. I thrive in fast-paced, collaborative environments where feedback and adaptation are key.
- **Example**: Working in an Agile team, I helped complete a complex feature within a sprint cycle by collaborating with front-end developers and testers, ensuring the API was delivered on time and aligned with user stories.

10. Container Orchestration (Kubernetes)

- I have advanced knowledge of Kubernetes for orchestrating containerized applications. I ensure automated scaling, load balancing, and efficient cluster management to keep services running smoothly.
- **Example**: I used Google Kubernetes Engine (GKE) to orchestrate a microservice architecture, automatically scaling services based on demand while minimizing infrastructure costs.

11. Continuous Learning & Adaptability

- I'm committed to continuous learning, and staying up to date with emerging technologies, tools, and practices. This keeps me adaptable and ready to apply innovative solutions to complex problems.
- **Example**: Recently, I took the initiative to learn Terraform, which I then used to automate the infrastructure setup for a cloud project, making the deployment process faster and more efficient.

12. Collaboration and Communication

- I have strong communication skills, which help me work effectively in teams and with stakeholders. I ensure that complex technical concepts are translated into clear, actionable plans.
- **Example**: In a previous project, I presented the technical architecture of an API I developed to a group of non-technical stakeholders, helping them understand how it aligned with the overall business objectives.

13. Problem-Solving

- I enjoy solving complex technical challenges, breaking them down into manageable pieces, and finding efficient, innovative solutions. My approach is systematic, focusing on identifying the root cause and addressing it effectively.
- **Example**: When faced with performance issues in a production environment, I traced the problem to inefficient database queries and refactored them, reducing response times by over 50%.

EXPERIENCE

Kizimani NGO — *Webmaster*
JANUARY 2022 - PRESENT

- Analyzing Website Needs
  I possess a keen eye for understanding organizational requirements and aligning them with website objectives to deliver an effective online presence.
- Server Maintenance and Optimization
  Proficient in maintaining, updating, and optimizing servers to ensure website reliability and seamless performance.
- Performance Monitoring and Analysis
  Utilizing analytical tools, I regularly monitor website performance, extract valuable insights, and make data-driven decisions to enhance user experience.
- Content Management and SEO
  Proactively updating website content to keep it current and engaging while implementing SEO strategies to improve search engine rankings

and increase organic traffic.
- Website Security
  I prioritize website security, implementing robust measures, and
  conducting regular audits to protect against potential threats and
  cyber-attacks.
- User Support and Training
  Skilled in providing user support and training to ensure smooth
  website utilization by the organization's staff.
- Web Technology Upgrades
  Stay updated with the latest web technologies and trends, making
  informed recommendations for website improvements and upgrades.

United Nations Environment Program — Software Engineer

JANUARY 2019 - NOVEMBER 2021
- Developed Ardhisasa. This advanced web-based information system
  incorporates Active Directory integration for seamless employee
  sign-in through biometrics, ensuring secure and efficient authentication
  via two-factor authentication (2FA). This innovative system effectively
  manages and maintains comprehensive land records for the Ministry of
  Lands, guaranteeing enhanced security and streamlined employee
  access. The information system boasts a client-facing side, enabling
  seamless interactions between members of the public and the system.
  Users can access various features, including a powerful search
  functionality to retrieve land records. The system also incorporates a
  secure login feature, ensuring authorized access to sensitive data.
- Contributed to developing a significant United Nations website and a
  corresponding mobile application, designed specifically to
  retrieve data from it. Based on the Drupal platform, the website was
  developed for the UN Ozone Secretariat under UNEP (United Nations
  Environment Programme).

Microsoft — Software Engineer

JUNE 2017 - DECEMBER 2018
- Developed a cutting-edge API, utilizing the power of Kaizala - a
  Microsoft productivity platform designed for mobile collaboration and
  communication. This innovative API is seamlessly integrated with
  Dynamics 365, enhancing data collaboration and streamlining
  workflows for improved efficiency and productivity.
- Leveraged Azure Cognitive Services to craft a powerful API, providing

advanced data analysis and interpretation capabilities, thereby enabling intelligent decision-making processes within Dynamics 365.

- Successfully employed agile methodologies throughout the development process, ensuring rapid iterations, continuous feedback, and adaptability to changing requirements, resulting in efficient and value-driven outcomes.
- Led the implementation of an efficient online ticketing system for Mawingu Networks, synchronized harmoniously with Dynamics 365, optimizing ticket management and improving customer service.
- Utilized Azure Functions to engineer web APIs, ensuring scalable and cost-effective resource allocation, enhancing performance and flexibility for data retrieval and management tasks.

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, OSI model, 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).

PROJECTS

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

- Developed a web-based land records management system connected to Azure Active Directory (AAD) for user authentication and access control.
- Implemented a robust and scalable database to store land-related information, including property ownership details, boundaries, legal documents, and transaction history.
- Integrated document management functionality for uploading, organizing, and retrieving land-related documents, ensuring easy access and retrieval.
- Designed intuitive interfaces for staff members to create, update, and maintain land records, ensuring accurate and consistent data entry.
- Implemented powerful search and reporting capabilities for quick access to specific land records and generating customized reports.
- Integrated workflow and collaboration features to streamline task management and ensure timely completion.
- Integrated a Geographical Information System for a visual representation of land records on interactive maps, enabling geospatial analysis and queries.
- Implemented robust security measures, role-based access control, and audit logging to protect data integrity and ensure compliance.
- Increased productivity and improved land administration processes through the streamlined management of land-related information.

This summary highlights the key aspects of the project, emphasizing the development of a web-based land records management system connected to Azure Active Directory for user authentication and access control. It briefly mentions the key features and benefits of the system, showcasing my expertise in implementing a comprehensive information system.

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

- Designed and developed an online ticketing system integrated with Microsoft Dynamics for efficient ticket management and tracking.
- Implemented seamless synchronization of ticket data with other business processes, ensuring a unified view of customer interactions and enhanced customer relationship management.
- Automated ticket assignment and routing based on predefined rules, optimizing efficiency and ensuring timely resolution.
- I Implemented real-time status tracking and escalation alerts to keep stakeholders informed and ensure prompt action.
- Developed a knowledge base and self-service options to empower users with independent problem-solving capabilities, reducing ticket volume and improving customer satisfaction.
- Utilized robust reporting and analytics capabilities to monitor ticket metrics, identify trends, and drive process improvements.
- Extended the ticketing system's reach by developing a mobile application with Microsoft Kaizala integration, enabling users to raise tickets, receive updates, and interact with support agents directly from their smartphones.
- Streamlined ticketing processes, improved customer support, and increased operational efficiency through the successful implementation of the online ticketing system, Microsoft Dynamics integration, and mobile application extension.

This summary highlights the key aspects of the project, emphasizing the development of an online ticketing system integrated with Microsoft Dynamics and extended through a mobile application with Microsoft Kaizala integration. It showcases my expertise in designing and implementing an end-to-end ticket management solution, delivering enhanced customer support and operational efficiency.

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

- Led the development of a Drupal-based website for the United Nations Environment Programme (UNEP), delivering a dynamic and scalable online platform to support UNEP's mission and initiatives.
- Successfully customized the website design, aligning it with UNEP's branding and requirements, and ensuring a visually appealing and user-friendly interface.
- Implemented Drupal's robust content management system, enabling

easy creation, editing, and publishing of website content by non-technical users within the UNEP team.
- Developed custom modules tailored to UNEP's specific needs, enhancing website functionality with advanced forms, customized search capabilities, and seamless integration with external APIs.
- Created and customized a Drupal theme to maintain consistency with UNEP's visual identity and ensure a responsive design across various devices.
- Implemented Drupal SEO best practices to optimize the website for search engines, improving UNEP's online visibility and impact.
- Employed performance optimization techniques, including caching image optimization, and code minification, to enhance website loading speed and ensure optimal performance.
- Ensured secure access to the website's backend through user authentication and access control features, maintaining data privacy and enforcing proper content management practices.
- Designed the Drupal website with scalability in mind, allowing for future growth and expansion to accommodate UNEP's evolving needs.
- Provided ongoing maintenance and support, ensuring the website's optimal performance, security, and continuous alignment with UNEP's goals and requirements

By successfully executing the Drupal website development project for UNEP, I showcased my expertise in Drupal CMS, custom module development, website theming, integration with third-party systems, SEO optimization, and performance optimization. This project demonstrated my ability to deliver innovative solutions aligned with the objectives of a globally renowned organization like the UNEP.

WordPress Website and Mobile App Development — *For OpenTable*
- Lead the development of a WordPress website and accompanying mobile applications for Open Table, a leading company in the restaurant industry.
- Designed and developed a responsive WordPress website that showcased Open Table's brand identity and provided an intuitive user experience for customers to discover and book restaurant reservations.
- Implemented custom WordPress themes and plugins to enhance the website's functionality, including advanced search and filtering options, integration with Open Table's reservation system, and seamless user registration and login features.
- Developed a secure and user-friendly content management system within WordPress, allowing Open Table's staff to easily update and manage restaurant listings, menus, and other relevant information.
- Ensured the website's compatibility across different devices and screen sizes, offering a consistent and optimized experience for desktop, tablet, and mobile users.
- Concurrently, created mobile applications for iOS and Android platforms, leveraging cross-platform development frameworks like

Flutter to ensure code reusability and efficient development.

- Designed and implemented intuitive user interfaces for mobile applications, providing seamless access to restaurant listings, reservation management, and personalized user profiles.
- Integrated the mobile applications with Open Table's API and backend systems, enabling real-time synchronization of reservation data and user preferences across platforms.
- Deployed the mobile applications to their respective app stores (Apple App Store and Google Play Store), ensuring broad accessibility and reach for Open Table's customer base.
- Conducted thorough testing and quality assurance procedures to ensure the website and mobile applications performed optimally, were user-friendly, and adhered to Open Table's brand guidelines.
- Provided ongoing support and maintenance, addressing any issues, implementing updates, and continuously improving the website and mobile applications in response to user feedback and changing requirements.

This WordPress website and mobile app development project for Open Table demonstrated my expertise in designing and developing user-centric and feature-rich solutions. By successfully delivering a responsive website and mobile applications, I showcased my proficiency in WordPress development, cross-platform mobile app development, API integration, and app store deployment. Additionally, my commitment to ongoing support and continuous improvement ensured Open Table's digital presence remained robust and aligned with industry standards.

REFERENCES

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