

JAMES GICHIA

Software Engineer — Web Application Development & Security

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PROFESSIONAL SUMMARY

Computer Science graduate (BSc, expected December 2026) building full-stack web applications with Django and PostgreSQL/MySQL, with a security-engineering specialization spanning the OWASP Top 10 (SQLi, XSS, SSRF, IDOR). Combines hands-on backend development with applied penetration-testing experience from PortSwigger Web Security Academy and Hack The Box Academy. Government-sector background configuring and hardening network infrastructure during an ICT Authority industrial attachment. Builds Python-based security automation tooling, including a completed firewall rules optimizer for Linux. Currently designing and building a multi-tenant SaaS platform (Django REST Framework, Next.js, PostgreSQL) and an automated web-security scanning tool. Seeking Software Engineer or Application Security Engineer roles focused on building secure web applications.

TECHNICAL SKILLS

Languages: Python, Bash, PowerShell, SQL

Backend & Frameworks: Django, Django REST Framework, Flask

Frontend: HTML, CSS, JavaScript; working knowledge of Next.js/TypeScript, Tailwind CSS

Databases: PostgreSQL, MySQL — schema design, query optimization, relational data modeling

Web App Security: OWASP Top 10 (SQLi, XSS, SSRF, IDOR) — manual testing & automated scanning; secure authentication design (JWT, RBAC); input validation; context-aware output encoding

API Design: RESTful API design, versioned endpoints, standard response structuring, REST/SOAP API security

Security Tools: Burp Suite (Professional/Community), browser DevTools, Kali Linux, Nmap-class reconnaissance workflows

Infrastructure: Docker, Git/GitHub, Linux (Kali, Garuda), Windows Server environments, iptables rule design and optimization

Networking: TCP/IP, protocol-level traffic analysis, SOA architecture

Training Platforms: PortSwigger Web Security Academy, Hack The Box (HTB) Academy

PROFESSIONAL EXPERIENCE

Industrial Attachment — ICT Infrastructure & Security *May 2025 - Jul 2025 | ICT Authority, Coast Region, Kenya*

- Identified and remediated network vulnerabilities across multiple government systems, contributing to a measurable improvement in regional ICT infrastructure security posture.
- Configured and maintained networking equipment across regional government offices, improving operational connectivity and uptime.
- Conducted formal security assessments of government network infrastructure; documented identified gaps and authored remediation procedures for technical leadership review.
- Partnered with cross-functional technical teams to implement configuration changes and resolve system issues, strengthening coordination between regional offices.

PROJECTS

Firewall Rules Optimizer *Python · Linux · Completed*

- Designed and built a Python tool to analyze and optimize iptables firewall rule sets on Linux systems.
- Implemented rule prioritization and re-ordering logic that reduced processing overhead while preserving the original security intent of each rule.
- Documented findings and produced recommendations for maintainable, secure firewall policy management.

Academic Full-Stack Web Applications *Django · MySQL / PostgreSQL · Coursework*

- Built full-stack web applications for university coursework using Django, with relational schemas designed and implemented in MySQL and PostgreSQL.

- Implemented backend logic, CRUD operations, and database-driven features connecting server-side application code to persistent storage.

tuSupport — Multi-Tenant SaaS Fundraiser Platform *Django REST Framework · PostgreSQL · Next.js/TypeScript · In Development*

- Designing the full system architecture for a multi-tenant SaaS platform for digitizing informal fundraising ("harambees"), including tenant-isolation strategy (organization-scoped data model), role-based access control, and a versioned RESTful API standard.
- Authored the complete technical scope and a 12-week phased delivery roadmap covering identity/access management, financial ledger tracking, M-Pesa payment integration (Daraja API), and audit-grade logging, built on security-by-design principles.

WebGuard — Automated Web Security Scanner *Python · FastAPI · React · In Development*

- Architecting a modular web-application security scanner covering 10 OWASP-aligned check categories (transport security, headers, CORS, cookie security, information disclosure, DNS security, and CVE-based component analysis), each implemented as a concrete subclass of a shared base-check contract.
- Designed the planned system as engine, CLI, FastAPI backend, and React dashboard layers, with JWT authentication, PostgreSQL-backed scan storage, and JSON/HTML/PDF report generation, targeting $\geq 80\%$ test coverage per module.

Personal Portfolio Website *HTML/CSS/JavaScript · In Progress*

- Building a responsive personal portfolio site with a dark theme and custom purple accent styling, featuring dedicated pages for biography, certifications/skills, projects, and contact.

SECURITY TRAINING & APPLIED LABS

PortSwigger Web Security Academy *Advanced Web Vulnerability Research*

- Completed hands-on labs on SSRF, SQL Injection, and XSS; applied manual exploitation techniques using Burp Suite to bypass security filters and manipulate web requests.

Hack The Box (HTB) Academy *Applied Penetration Testing*

- Compromised lab machines involving Linux privilege escalation, misconfigured services, and Active Directory vulnerabilities; performed web reconnaissance using browser developer tools and intercepting proxies.

CONFERENCES

CyberWeek Africa 2025 — Delegate & Participant *Oct 27-31, 2025 | Kenya School of Government, Nairobi*

- Engaged in the "Compliance by Design" track on integrating security into digital system architecture; represented Mama Ngina University in discussions on AI and defense labs, networking with professionals from NC4, ICT Authority, and the Communications Authority of Kenya.

EDUCATION

Bachelor of Science, Computer Science *Expected Dec 2026 | Mama Ngina University, Kenya*

Relevant coursework: Computer Systems Security, Computer Networks and Networked Applications, Advanced Database Systems, Design and Analysis of Algorithms, Distributed Systems, Multimedia Technologies, Research Methods, Technical Writing.

CERTIFICATIONS

- Cisco Networking Academy — Ethical Hacking
- Cisco Networking Academy — Cybersecurity Essentials
- Cisco Networking Academy — Introduction to Cybersecurity
- Cisco Networking Academy — Networking Fundamentals

LEADERSHIP & ADDITIONAL INFORMATION

Chairperson, SDA Society (Campus)

- Led society activities, meetings, and outreach programs; mentored members and organized training sessions and small-group studies.
- Facilitated communication, conflict resolution, and project execution across the organization.

Languages: English — Fluent (C2) | Kiswahili — Intermediate (B1) | Kikuyu — Intermediate (B1)

Availability: Open to internships, entry-level roles, and consulting engagements in software engineering, web application development, and application security.