Patrick Nyaga

Low-Level Systems & Security

✉ nyaganjiiru@gmail.com 📞 +254727097938 📍 Nairobi, Kenya 🔗 Portfolio in LinkedIn

○ GitHub

📇 Profile

Curious and detail-oriented developer focusing on low-level systems, programming, and security. Currently building resilient tools in Rust, C, and Python, exploring API fuzzing, compliance verification, and communication protocol analysis. Passionate about learning how complex systems work at their core and applying this knowledge to create efficient, secure, and scalable solutions.

💼 Professional Experience

Kenya Revenue Authority   02/2025 – Present
Business Analyst ↗   Nairobi, Kenya
- Mapped workflows for the Revenue Assurance EAPI Audit Module.
- Explored protocol analysis of eTIMS communication between servers and
  fiscal devices.
- Supported the Investigation & Enforcement Dashboard project, bridging
  business requirements with dev implementation.

Konza Technopolis (via ICT Authority Kenya)   12/2023 – 11/2024
Smart City Solutions & Operations ↗   Machakos, Kenya
- Supported deployment of fiber, smart poles, and digital signage
  infrastructure.
- Contributed to rollout of Experience Center & Integrated Operations
  Center for city-wide monitoring.
- Assisted in operationalizing intelligent traffic management and
  surveillance platforms with real-time data feeds.

Devligence Limited   08/2023 – 06/2024
Software Developer   Nairobi, Kenya
- Built API-driven CRM modules.
- Designed responsive UIs with Figma + modern JS frameworks.
- Conducted API testing and reliability checks across workflows.

Kenya Revenue Authority   01/2022 – 03/2022
Technology Innovation & Design ↗   Nairobi, Kenya
- Tested automation approaches for waiver letter processing using AI/ML.
- Experimented with open-source collaboration tools for teams.

🎓 Education

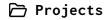**Bachelor of Business Information Technology**   05/2019 – 07/2023
Riara University ↗   Nairobi, Kenya
GPA: 3.65/ 4.00 (First Class Honors)

📂 Projects

Ash-Vim-Editor   08/2025 - Present
Minimal Vim-like text editor built from scratch to explore buffer
management, modal editing, and low-level input handling.

API Fuzzing & Hardening Toolkit (Rust)   08/2025 - Present
CLI tool that generates malformed API requests (bad JSON, oversized
payloads, replayed timestamps) to test system resilience.

Compliance Verification CLI (Rust)   08/2025 - Present
Cross-platform CLI that queries compliance APIs, performs offline
integrity checks, and stores results in tamper-proof logs.

Internal API Wrapper for eTIMS Simulation
Prototype API wrapper that mimics eTIMS endpoints, enabling internal
integration without live environment dependencies.

Khalkeus Construction Group ⧉   04/2025 - Present
Developed a portfolio site for a construction company. Focused on
optimizing performance, clean code architecture, and user experience
across devices. Currently enhancing code structure, responsiveness, and
accessibility to align with SEO and mobile UX best practices.

Techneia CRM ⧉   07/2025 - Present
Designed and developed a modular CRM web application focused on lead and
contact management. Handled system planning, requirements analysis, UI
design (Figma), and implementation of CRUD operations. Currently
rewriting the project in Python to improve scalability, code
maintainability, and backend logic separation.

🧠 Skills

Low-Level Systems & Security — Reverse Engineering (MIPS, ARM, x86), Protocol Analysis,
API Security, Binary Parsing, Fuzzing

Programming & Scripting — Rust, C, Python, JavaScript (Node.js), Shell Scripting

Tools & Systems — Wireshark, TCPdump, USB/Serial sniffing, Linux (Command Line),
Git/GitHub

Other — API Development, CLI Tooling, Automation Scripts, Cryptographic Hashing, SQLite
Integration

🗁 Certificates

- Elements of AI: Introduction to AI - University of Helsinki
- Cybersecurity and Emerging Technologies Awareness Training - ICT Authority
- Artificial Intelligence Foundations: Machine Learning - LinkedIn Learning
- Linux: Introduction to Shell Scripting for DevOps - Coursera

⤫ References

Brian Nyangena, *Managing Partner,* Bayes Consulting
bnyangena@bayesconsultants.com, 0727773342

Martin Nyoike, *Director,* Furmart Furnishers
nyoikies@yahoo.com, 0722247873

Tirus Wanyoike, *Lead Solution Architect,* BCK Kenya
0723885209

- Elements of AI: Introduction to AI - University of Helsinki
- Artificial Intelligence Foundations: Machine Learning - LinkedIn Learning
- Linux: Introduction to Shell Scripting for DevOps - Coursera