

JULIAN TANUI

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[Portfolio](#)

PROFESSIONAL SUMMARY

Fullstack Developer and AI Engineer with a BSc in Informatics and Computer Science, currently building production software in the climate technology space at Verst Carbon. Experience spans full-stack web applications, AI agent systems, geospatial data pipelines, and machine-learning models — from a financial risk engine for carbon-credit portfolios (OfftakeOS) to a real-time meeting intelligence platform and a 94%-accurate deepfake detection system. Recognized for academic excellence (Dean's List) and active in international innovation challenges. Passionate about turning complex problems into polished, production-ready products.

TECHNICAL SKILLS

- **Languages:** Python, TypeScript, JavaScript, Kotlin, Dart, SQL.
- **Frameworks:** Next.js, React, FastAPI, Flask, Node.js/Express, Flutter, PyTorch, TensorFlow.
- **AI & ML:** Computer Vision (CNNs, ResNet50), RAG (FAISS, BM25, pgvector), LLM Agents (LangGraph, GPT-4o), NLP.
- **Cloud & DevOps:** Docker, CI/CD, PostgreSQL/Supabase, Modal, Inngest, Railway, Cloudflare Pages.
- **Geospatial & Data:** NASA FIRMS, GFW, GDELT, OpenStreetMap, interactive map dashboards.
- **Tools:** Git/GitHub, Linux Systems, Cisco Networking, IoT Sensors.

EDUCATION

Strathmore University, Nairobi | Bachelor of Informatics and Computer Science

Coursework completed, December 2025 | Degree conferment: August 2026

- **Honors:** Dean's List Award (2022-2023, 2024-2025) – Recognized for outstanding academic performance.
- **Leadership:** Local Committee Vice President for Finance and Legalities; Project Manager – SDG Hub, Strathmore.
- **Relevant Coursework:** Data Structures and Algorithms, Software Engineering, Machine Learning, Advanced Database Systems, Advanced Networking, Project Management.

PROFESSIONAL EXPERIENCE

Verst Carbon | Software Engineering Intern | Feb 2026 – Present

- Built full-stack production applications from scratch for carbon project management and data analysis.
- Collected and processed geospatial data for the company's corridor intelligence platform, integrating sources such as OSM, GFW, ACLED, and World Bank.
- Automated internal workflows including daily climate-tech news feeds and weekly performance analysis reports.
- Contributed to data analysis pipelines supporting carbon-credit verification and monitoring.

CIC Insurance Group | ICT Intern | Jan 2025 – April 2025

- Provided enterprise-level technical support, resolving complex ticket escalations and ensuring operational continuity.
- Managed network infrastructure, troubleshooting outages and optimizing performance for domain connectivity.
- Configured hardware assets (laptops, mobile devices), ensuring strict adherence to security protocols.

Kenya National Library Service (KNLS) | Volunteer & Trainer | Jan 2024 – Mar 2024

- Led digital literacy workshops, teaching computer proficiency to students and community members.
- Assisted in organizing educational workshops and fostering a collaborative learning environment.
- Assisted in front desk services and library resource organization.

HACKATHONS & INNOVATION CHALLENGES

- **International Energy & Sustainability Hackathon (2026):** Participating in the 2026 cohort, developing sustainable energy solutions.
- **Inflection AI Hackathon (Climate Change):** Developed 'EcoCoin,' a fintech solution for trading carbon credits for real currency to incentivize climate action.
- **Oracle Hackathon (Climate Change):** Built 'Smart IoT Farm,' an integrated system using sensors and AI to monitor soil health and automate irrigation.

SELECTED ENGINEERING PROJECTS

- **OfftakeOS (Fintech + AI Automation):** Built an automated financial risk engine for carbon-credit portfolios, ingesting forward contracts, monitoring 10 real-world data sources (NASA FIRMS, GFW, GDELT, carbon prices), and scoring delivery risk on interactive dashboards. Stack: Next.js, Flask, PostgreSQL, Modal; 322 automated tests.
- **Meeting Intelligence Engine (AI + Real-time Systems):** End-to-end meeting intelligence platform — Recall.ai capture, AssemblyAI diarized transcription, GPT-4o summaries/action items, RAG chat with pgvector, auto-generated weekly podcasts. WebSocket live transcription, calendar integration, JWT/RBAC/HMAC security.
- **DeepDetect (AI/ML):** Engineered an explainable ResNet50 CNN for deepfake image/video detection — 94.12% accuracy, 0.982 AUC on 140K images. GRAD-CAM visualizations, video frame aggregation, OAuth, admin analytics, PDF reports. React/TypeScript + Flask.
- **CarbonVerify (Fullstack + DevOps):** Carbon-credit auditing dashboard with project mapping, sensor-CSV verification, and certificate-minting workflow. React/Vite frontend, Node.js/Express API, PostgreSQL, Docker Compose, full CI/CD pipeline.
- **Project Rainmaker (AI Sales Agent):** LangGraph-based SDR agent that searches the web, scrapes and evaluates business websites, scores leads (1–10) on marketing gaps, and generates PDF outreach reports. Built for Okara AI's automated CMO platform.
- **Gaming RAG Assistant (AI):** Q&A system over game documentation using hybrid dense+sparse retrieval (FAISS + BM25) with HuggingFace transformers, persona-based responses, multi-format docs, optional GPT-3.5. Deployed on Streamlit Cloud.
- **CasaControl (Mobile):** Smart-home management mobile app using Kotlin/Flutter, enabling remote appliance control.
- **CommunityPlus (Web):** Web-based donation platform bridging donors and receivers to facilitate community support.

ACHIEVEMENTS & CERTIFICATIONS

- **Dean's List Award (2022-2023, 2024-2025):** Awarded for maintaining a high GPA and demonstrating academic leadership.
- **NSK AI RAG Bootcamp:** Completed intensive training on building Retrieval-Augmented Generation systems.
- **Cisco Certified:** IT Essentials (Cisco Networking Academy) – proficient in hardware assembly, maintenance, and security.
- **Cisco Certified:** Computer Networks (Cisco Networking Academy).

LEADERSHIP & ACTIVITIES

- **Local Committee Vice President** – Finance & Legalities, Strathmore University.
- **Project Manager** – SDG Hub, Strathmore University.
- **Member:** Google Student Developer Club (GDSC), Strathmore University.
- **Member:** Strathmore Computing and Engineering Sciences Association.
- **Registered Member:** The Kenya Red Cross Society.