



# RUYANGE ARNOLD

FULL STACK DEVELOPER

## CONTACT

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## SKILLS

Project Management & Leadership  
Testing, CI/CD & Agile Delivery  
Cybersecurity & OWASP Practices  
TensorFlow & Machine Learning  
Docker, MQTT/IoT & GitHub Actions  
PostgreSQL, MySQL & MongoDB  
REST APIs & Server Actions  
HTML5, CSS3, Tailwind & Material-UI  
Node.js, Python & Java  
React.js, Next.js & TypeScript

## LANGUAGES

English (Fluent)  
French (Basic)  
Kinyarwanda (Native)

## REFERENCE

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## PROFILE

**Arnold RUYANGE** is a Full-Stack Developer and AI Engineer based in Rwanda, with a strong focus on **Java/Spring Boot backend engineering, and React/Next.js frontend development**. A graduate of **Rwanda Coding Academy**, he has designed and deployed full-stack systems across fintech, agriculture, enterprise management, marketplaces, AI, and IoT. His experience spans **REST API design, database architecture, authentication and security, AI/computer vision, DevOps, and penetration testing**, with a focus on building reliable, scalable, and production-ready software.

## WORK EXPERIENCE

### Carconnect.rw 2024 – 2025

*Full Stack Developer*

Built responsive marketplace interfaces with reusable React components and maintainable state patterns.

Integrated REST APIs for listings, authentication, and real-time customer account experiences.

Collaborated with product and backend teams to ship reliable features across iterative release cycles.

### Credora 2024 – 2026

*Frontend Developer*

Delivered Login, Signup, Dashboard, and password recovery flows using React.js and Material-UI.

Implemented form validation, API integrations, and error handling for production fintech users.

Deployed and monitored releases on Vercel with consistent branding and cross-browser quality.

### Freelance & Open Source 2023 – Present

*Full Stack Developer*

Architected Next.js portfolios, Java desktop systems, Python data pipelines, and MQTT IoT platforms.

Built CNN handwriting recognition, weather monitoring dashboards, and e-commerce applications end to end.

Maintains flagship open-source repositories on GitHub with clean architecture and documentation.

## EDUCATION

### Software Development & Embedded Systems 2023 – 2026

*Rwanda Coding Academy*

GPA: 3.8 / 4.0

Focused on full-stack web development, mobile foundations, embedded systems, advanced cybersecurity and software engineering practice.

## PROFESSIONAL OVERVIEW

RUYANGE ARNOLD | FULL STACK DEVELOPER | Kigali, Rwanda

## CAREER SUMMARY

Arnold RUYANGE is a **Full-Stack Developer and AI Engineer** based in Kigali, Rwanda, specializing in **Java/Spring Boot, React, Next.js, and TypeScript**. He has designed and deployed full-stack systems across **fintech, agriculture, enterprise management, marketplaces, AI, and IoT**, with hands-on experience in RESTful APIs, database architecture, authentication, and scalable application design. His technical capabilities extend to **AI and computer vision, DevOps, cloud deployment, and penetration testing**, enabling him to build secure systems from backend architecture and data layers through to production-ready user interfaces. He is recognized for strong problem-solving, disciplined engineering, and the ability to take ownership of features and systems from **architecture to deployment**.

## SELECTED PROJECTS

Elite Professional Portfolio — Next.js 14 full-stack portfolio with App Router, TypeScript, React Three Fiber, admin CMS, 15+ REST APIs, GitHub integration, Resend contact pipeline, and production security headers.

### AviaServe — Airline Operations & Reservation Platform

Java 17, Spring Boot, Next.js, TypeScript, PostgreSQL, Redis, Docker

Live Demo: <https://aviaserve.vercel.app> | GitHub: <https://github.com/Arn-The-Wolf/aviaserve>

- Engineered a full-stack airline operations platform covering flight management, crew scheduling, reservations, disruption management, safety reporting, and operational workflows.
- Implemented **40+ REST API endpoints**, JWT authentication, role-based access control, PostgreSQL persistence, Redis caching, and database migrations.
- Built a responsive Next.js operations interface with **50+ reusable React components**, supporting administrative dashboards and customer-facing booking workflows.
- Integrated security controls including BCrypt password hashing, method-level authorization, CORS protection, and audit trails.

### ArnPulse — Mobile Money Agent Network Platform

Next.js, TypeScript, Maps, Analytics, FinTech

GitHub: <https://github.com/Arn-The-Wolf/arnpulse>

- Built a financial-inclusion platform for monitoring mobile-money agent availability and reliability across regional networks.
- Implemented real-time agent status tracking, customer-facing nearby-agent discovery, and regional analytics for identifying underserved areas.
- Designed location-aware workflows and analytics to connect agent network reliability with customer accessibility.

### Ingoboka — Digital Microinsurance Platform

Next.js 14, TypeScript, Tailwind CSS, PWA, Zustand

Live Demo: <https://ingoboka-platform.vercel.app> | GitHub: <https://github.com/Arn-The-Wolf/ingoboka-platform>

- Built a mobile-first digital microinsurance platform connecting citizens, insurers, agents, and administrators through role-specific workflows.
- Implemented insurance product discovery, AI-assisted needs assessment, digital policy cards with QR verification, claims submission/tracking, and mobile-money payment workflows.
- Developed bilingual **English/Kinyarwanda** interfaces and PWA capabilities for accessible mobile use in Rwanda.
- Structured the application using Next.js App Router, reusable React components, custom hooks, centralized state management, API modules, and role-based route organization.

### Uroa Smart — Farm Management System for Rwandan Farmers

Next.js, TypeScript, Tailwind CSS, Node.js/Express, PostgreSQL, PWA

Live Demo: <https://urora-smart.vercel.app> | GitHub: [https://github.com/Arn-The-Wolf/Uroa\\_Smart](https://github.com/Arn-The-Wolf/Uroa_Smart)

- Designed and built an **offline-first farm management platform for smallholder farmers in Rwanda**, beginning with cattle registration and milk-production tracking.
- Architected the application as a **modular monolith**, enabling future health, breeding, finance, and crop-management modules without restructuring the core system.
- Engineered domain-driven REST APIs for cattle, milking, and dashboard modules with a PostgreSQL schema modeling farm-to-cow-to-production relationships.

- Built a responsive Next.js/PWA interface with mobile-first navigation, production analytics, and **7-day milk-output visualization**, optimized for low-end Android devices and unreliable connections.
- Designed a cost-conscious email authentication workflow for signup, login, and password recovery as an alternative to SMS-based authentication.

### Credora — AI Alternative Credit Scoring Platform

*Next.js, TypeScript, AI/ML, PostgreSQL, Tailwind CSS*

**Live Demo:** <https://credora.vercel.app> | **GitHub:** <https://github.com/Arn-The-Wolf/Credora>

- Built an AI-powered alternative credit scoring platform for SMEs using mobile-money and digital financial data.
- Implemented risk profiling, AI-based credit scoring, mobile-money data ingestion, and lender-facing financial dashboards.
- Designed the platform around alternative financial footprints to support credit assessment for businesses without traditional banking histories.

### Sentinel — Educational Security Vulnerability Scanner

*Python, Flask, Security, Networking, AI*

**GitHub:** <https://github.com/Arn-The-Wolf/Sentinel>

- Developed a modular, **localhost-only vulnerability scanner** with a built-in sandbox containing intentionally planted vulnerabilities for safe security testing.
- Implemented modular detection plugins and automated scan-report generation for identifying and documenting security issues.
- Designed the system around safe security education, detection, analysis, and remediation workflows.

### ArcFace Face Recognition

*Python, ONNX, ArcFace, OpenCV, Computer Vision*

**GitHub:** <https://github.com/Arn-The-Wolf/face-recognition-5pt-arcface-onnx>

- Developed a CPU-first face recognition pipeline using ArcFace ONNX inference and five-point facial alignment.
- Implemented face detection, landmark alignment, embedding extraction, identity enrollment, and verification.
- Optimized the architecture for portable inference without requiring GPU infrastructure.

### ANPR — Automatic Number Plate Recognition

*Python, OpenCV, YOLO, OCR, Computer Vision*

**GitHub:** <https://github.com/Arn-The-Wolf/ANPR-Detection-Alignment-OCR>

- Developed an end-to-end automatic number plate recognition pipeline combining plate detection, image alignment, OCR, and structured text extraction.
- Designed the pipeline for security, parking, and traffic-monitoring use cases.
- Addressed challenges including plate-detection accuracy, skewed plates, and real-world lighting conditions.
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### Government of Rwanda ERP Payroll Management System

*Java 17, Spring Boot, Spring Data JPA, PostgreSQL, JWT*

**GitHub:** <https://github.com/Arn-The-Wolf/gov-rwanda-erp-payroll-system>

- Developed an enterprise payroll backend covering employee records, employment management, deductions, payroll processing, and payslip workflows.
- Designed **40+ REST API endpoints** with JWT authentication and role-based authorization.
- Implemented automated payroll calculations, approval workflows, OTP authentication, password recovery, database triggers, stored procedures, and cursor functions.
- Applied structured backend architecture and documented API, database, architecture, and deployment specifications.

### ArnVita — Clinic Management System

*Java, Spring Boot, MySQL, REST API*

**GitHub:** <https://github.com/Arn-The-Wolf/ArnVita>

- Developed a clinic management backend for patient records, appointment scheduling, practitioner workflows, and clinic administration.
- Implemented **versioned patient records** and appointment conflict management using Spring Boot and MySQL.
- Designed RESTful services around maintainable healthcare data and administrative workflows.

### WASAC & REG Unified Billing System

*Java, Spring Boot, REST API, MySQL*

**GitHub:** <https://github.com/Arn-The-Wolf/wasac-reg-unified-billing-system>

- Developed an enterprise billing backend unifying WASAC water and REG electricity postpaid billing workflows.
- Implemented customer account management, billing logic, invoice generation, and automated postpaid processing.
- Designed structured domain models to support accurate multi-utility billing and reconciliation.

### **CarConnect.rw — Automotive Marketplace**

*React, TypeScript, Tailwind CSS, Node.js, REST APIs*

**GitHub:** [https://github.com/Arn-The-Wolf/car\\_connect](https://github.com/Arn-The-Wolf/car_connect)

- Developed a full-stack vehicle services platform with separate backend and TypeScript/React frontend applications.
- Implemented vehicle browsing and service-booking workflows with API-driven frontend/backend communication.
- Built reusable responsive interfaces for cross-device vehicle-service interactions.

### **Shift Swap — Workforce Scheduling Platform**

*Ruby on Rails, Hotwire, Stimulus, Tailwind CSS, PostgreSQL*

**GitHub:** <https://github.com/Arn-The-Wolf/shift-swap>

- Developed a workforce scheduling platform allowing employees to view shifts, request swaps, and managers to approve schedule changes.
- Implemented authentication, relational data models, role-based workflows, validation, and real-time Turbo updates.
- Added automated testing with RSpec and production PostgreSQL deployment configuration.

## **TECHNICAL COMPETENCIES**

**Frontend:** React, Next.js, TypeScript, Astro, HTML5, CSS3, Tailwind CSS, Material-UI, Framer Motion, responsive design

**Backend:** Node.js, Python, Java, Flask, REST APIs, GraphQL, server actions, authentication, data modeling

**Data & AI:** PostgreSQL, MySQL, MongoDB, TensorFlow, CNN pipelines, web scraping, structured data extraction

**DevOps & IoT:** Docker, GitHub Actions, MQTT, CI/CD, Vercel deployment, monitoring, secure coding practices

## **PROFESSIONAL STRENGTHS**

- Builds **full-stack applications** using Java/Spring Boot for robust backend systems and React/Next.js for scalable, responsive frontend experiences.
- Designs and develops **RESTful APIs, authentication systems, database architectures, and role-based access control** with a strong focus on reliability, security, and maintainability.
- Develops **AI and machine learning solutions**, including computer vision, facial recognition, OCR, intelligent scoring systems, and AI-powered application features.
- Applies **DevOps practices** across Docker, CI/CD, deployment, cloud infrastructure, environment management, and production application workflows.
- Performs **penetration testing and security assessment**, with practical experience in vulnerability discovery, network security, web application testing, and security-focused tooling.
- Writes **clean, documented, testable code** and applies sound software architecture, debugging, performance optimization, and secure development practices.