

NTWALI YANIS

Full Stack Software Engineer & Embedded Systems Specialist

Kigali, Rwanda | +250 791 096 846 | ntwaliyanis@gmail.com

GitHub: github.com/Ntwali-1 | **Portfolio:** ntwali-yanis.vercel.app | **LinkedIn:** linkedin.com/in/ntwali-yanis

PROFESSIONAL PROFILE

Results-driven Full Stack Software Engineer with comprehensive expertise in designing, developing, and deploying scalable, production-ready applications. Specialized in microservices architecture, modern backend frameworks (NestJS, Spring Boot), and responsive frontend technologies (React, Next.js). Demonstrated ability to architect systems with 99.5% uptime, optimize databases for 40% performance improvements, and implement CI/CD pipelines reducing deployment time by 60%.

Strong foundation in mathematics and physics enabling analytical problem-solving. Active open-source contributor with 817 contributions across 33+ repositories. Committed to writing clean, maintainable code and leveraging technology to drive innovation in the African tech ecosystem.

CORE COMPETENCIES

Backend Development: NestJS • Spring Boot • Node.js • Express • Laravel • Java • RESTful APIs • Event-Driven Architecture • WebSockets

Frontend Development: React • Next.js • TypeScript • JavaScript • Tailwind CSS • React Native • Responsive Design • UI/UX Implementation

Database & Data Management: PostgreSQL • MongoDB • MySQL • Prisma ORM • Query Optimization • Database Design • Data Modeling

Cloud & DevOps: AWS • Docker • Git • GitHub • CI/CD Pipelines • GitHub Actions • Container Orchestration • Infrastructure as Code

Embedded Systems: Arduino • C Programming • IoT Integration • Microcontroller Programming • Hardware Interfacing • Real-Time Systems

Security & Architecture: JWT Authentication • OAuth 2.0 • Microservices Design • System Architecture • OWASP Compliance • Secure Coding

PROFESSIONAL EXPERIENCE

Full Stack Software Engineer | Self-Employed / Open Source (2024–Present)

TerraFund – Agricultural Investment Platform

Architected and developed microservices-based backend for platform connecting landowners with agricultural investors. System handles land listing management, investment proposals, real-time communication, and verification workflows.

Technical Stack: Spring Boot • PostgreSQL • Docker • AWS • WebSockets

Accomplishments:

- Designed microservices architecture enabling independent service scaling and deployment
 - Implemented real-time chat functionality using WebSockets for investor-landowner communication
 - Created multi-step verification layer with secure document handling and validation
 - Deployed containerized services on AWS with load balancing and auto-scaling
 - Achieved 99.5% system uptime with comprehensive monitoring and alerting
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Borrowly – Peer-to-Peer Lending Platform

Developed comprehensive backend web application enabling secure peer-to-peer lending for monetary and physical assets. System manages complex loan lifecycles, user verification, and dispute resolution.

Technical Stack: Java • Spring Boot • PostgreSQL • JWT Authentication

Accomplishments:

- Built robust API handling multiple loan types with complex state management
 - Implemented secure authentication and authorization using JWT tokens
 - Designed PostgreSQL schema for efficient loan tracking and user relationships
 - Created dispute resolution workflows with escalation mechanisms
 - Integrated payment processing with transaction audit logging
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ShelfWise – Store Management System

Engineered production-ready backend system for comprehensive store management including inventory, orders, products, and user management.

Technical Stack: NestJS • TypeScript • Prisma ORM • PostgreSQL

Accomplishments:

- Developed using NestJS framework with TypeScript for type safety and maintainability
 - Optimized database queries achieving 40% improvement in data retrieval performance
 - Implemented role-based access control (RBAC) for secure API endpoints
 - Created caching strategies for frequently accessed data
 - Built comprehensive API documentation for frontend integration
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Solvify – E-Learning Platform

Built full-featured e-learning platform with user authentication, course management, and progress tracking capabilities.

Technical Stack: Next.js • TypeScript • Tailwind CSS • Google OAuth 2.0

Accomplishments:

- Implemented Google OAuth 2.0 authentication for seamless user onboarding
 - Designed responsive UI using Tailwind CSS achieving 90+ Lighthouse scores
 - Created course management system with video hosting and progress tracking
 - Built personalized user dashboard with learning path recommendations
 - Optimized performance for mobile-first experience across all devices
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LegitRides – Ride-Sharing Platform

Developed innovative ride-sharing application introducing world's first mutual trip exchange system with comprehensive dispute resolution mechanisms.

Technical Stack: Node.js • MongoDB • Real-Time Geolocation • Payment Processing

Accomplishments:

- Implemented real-time ride matching using geolocation algorithms
 - Created unique mutual trip exchange system enabling peer-to-peer ride sharing
 - Developed comprehensive dispute resolution with appeals and escalation processes
 - Integrated payment processing and driver verification systems
 - Built rating and review system for trust and community building
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AirVolt – Smart Home Energy Management System

Engineered IoT system integrating software and hardware components for real-time energy monitoring and optimization.

Technical Stack: Arduino • C • Backend Services • 3D Visualization

Accomplishments:

- Programmed Arduino microcontrollers for real-time sensor data acquisition
- Implemented C firmware for efficient hardware control and interrupt handling
- Designed backend services for data aggregation and analytics
- Created visualization dashboards using 3D energy flow representation

- Integrated IoT protocols for device communication and automated control

Additional Projects: TeamLynk (Employee Management System), La Formular (Tech Company Services Platform)

TECHNICAL SKILLS MATRIX

Category	Expert	Proficient	Familiar
Languages	Java, TypeScript, JavaScript	PHP, C, SQL	C++, Python
Backend	NestJS, Spring Boot	Node.js, Express, Laravel	Django, FastAPI
Frontend	React, Next.js	React Native, Vue.js	Angular, Svelte
Databases	PostgreSQL, MongoDB	MySQL, Firebase	Cassandra, Redis
DevOps	Docker, Git, GitHub	AWS, CI/CD	Kubernetes, Terraform
Embedded	Arduino, C Microcontrollers	IoT Protocols	RTOS, Firmware

EDUCATION & CERTIFICATIONS

Rwanda Coding Academy (RCA)

Specialization: Software Programming, Embedded Systems, Cyber Security

Status: High School Student | Ongoing

Ecole de Sciences Byimana

Ordinary Level | Secondary Education

Kigali Parent School

Ranked 1st in National Primary Leaving Examinations (Rwanda)

Achievement: Exceptional academic excellence and demonstrated commitment to continuous learning

OPEN-SOURCE CONTRIBUTIONS & PORTFOLIO

GitHub Statistics:

- 817 contributions in the past year across multiple repositories
- 33+ public repositories showcasing diverse projects and technologies
- 43 starred repositories indicating community recognition
- Active contributor to multiple open-source projects

Portfolio Website: ntwali-yanis.vercel.app

Interactive portfolio showcasing all major projects with detailed case studies and technical implementations.

Notable Contributions:

- Microservices architecture implementations and best practices
- Backend API development frameworks and utilities
- Frontend component libraries and design systems
- DevOps automation tools and CI/CD configurations
- Embedded systems projects and IoT integrations

PROFESSIONAL INTERESTS & ACTIVITIES

Technology Focus: Microservices architecture • Cloud infrastructure • Embedded systems • Cyber security • Open-source development

Personal Interests: Ping pong • Music • Gaming • Emerging technologies • Community development

Languages: English (Fluent) • French (Conversational) • Kinyarwanda (Native)

Work Style: Thrive in agile environments and collaborative team settings. Prefer continuous learning, challenging technical problems, and fast-paced startup cultures.

Career Vision: Leverage technology to drive innovation in Rwanda and across Africa, contributing to impactful projects addressing societal challenges and accelerating

economic growth.

AVAILABILITY & RELOCATION

Current Status: Available for full-time positions, freelance projects, and consulting opportunities

Relocation: Open to opportunities in Rwanda and across Africa; willing to consider international opportunities

Contact: ntwaliyanis@gmail.com | +250 791 096 846

References and detailed project portfolios available upon request.

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