

MENRA WEDWANG ROMIAL

Cloud & Green IT Expert

Application Deployment and Energy Optimization of Infrastructures

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RESEARCH PROFILE

PhD candidate specializing in Cloud Computing and Green IT, with a strong focus on energy-efficient application deployment and infrastructure optimization. Combining advanced research in sustainable computing with extensive full-stack development experience, I bridge the gap between theoretical innovation and practical implementation. My expertise spans from low-level power management (Intel RAPL) to high-level orchestration systems (Kubernetes), with a proven track record in designing scalable, energy-aware solutions for modern cloud infrastructures.

PROFESSIONAL EXPERIENCE

PhD Candidate

Inria, France

November 2024 – Present

- Research on energy-efficient cloud computing and sustainable IT infrastructure
- Development of novel approaches for green application deployment
- Focus on energy optimization in distributed systems

Research Intern

IMT Atlantique, France

April 2024 – August 2024

- Implemented server power limitation using Intel RAPL technology
- Conducted large-scale experimentation on Grid'5000 distributed infrastructure
- Developed energy-aware Kubernetes scheduler with custom resource constraints
- Deployed and managed k3s clusters with containerized applications using Docker
- Published technical findings on energy-efficient container orchestration

Software Developer & Team Lead

Forall Founders, Cameroon

May 2022 – March 2024

- Led a team of 10 developers in designing e-Learning platforms and school management systems
- Architected and developed full-stack applications using Django, Node.js, React.js, Next.js, and Vue.js
- Built desktop applications with PyQt/PySide for cross-platform deployment
- Served as Project Manager for mobile e-Learning application with 15,000+ active users
- Optimized cloud infrastructure resulting in 75% reduction in page load times

KEY PROJECTS

For All School Management System

- Developed IoT-based attendance system integrating PyQt, Raspberry Pi, and Arduino
- Achieved 20% reduction in administrative overhead and 15% improvement in teacher punctuality
- Implemented real-time data synchronization across distributed school networks

Target Education For All African (TEFAA) – tefaafrik.com

- Architected scalable backend infrastructure supporting 15,000+ concurrent users
- Optimized database queries and caching strategies, reducing latency from 5s to 1.2s
- Managed cloud infrastructure on Linode with focus on security, performance, and cost optimization
- Implemented CI/CD pipelines for automated testing and deployment

Letsgo Carpooling Platform – letsgo.yowyob.com

- Developed responsive web application using Next.js and mobile app with React Native
- Designed intuitive UI/UX praised for accessibility and user engagement
- Collaborated in agile environment for seamless frontend-backend integration

XCSM Parser

- Built robust document conversion pipeline (PDF/Word to XML) preserving formatting
- Implemented error detection and validation mechanisms ensuring data integrity

EDUCATION

Master of Engineering in Computer Science

2021 – 2024

ENSPY, Cameroon

Specialization in Distributed Systems and Software Engineering

Preparatory Class – Mathematics & Physics

2019 – 2021

ENSPY, Cameroon

Advanced coursework in computational mathematics and theoretical physics

TECHNICAL SKILLS

Programming Languages

Go • Python • Java • JavaScript/TypeScript • C • Bash/Shell

Web Frameworks & Libraries

Django • Node.js/Express • React.js • Next.js • Vue.js • Spring Boot • FastAPI

Cloud & DevOps

- Docker & Docker Compose
- Kubernetes (k3s, k8s)
- CI/CD (GitLab CI, GitHub Actions)
- Infrastructure as Code (Terraform)
- Git & Version Control
- Monitoring (Grafana, Prometheus)
- Google Cloud Platform
- Linux System Administration
- Nginx & Apache
- Jenkins

Databases & Data Tools

PostgreSQL • MySQL • MongoDB • Redis • SQL • Data Analysis (Pandas, NumPy)

Research & HPC

Grid'5000 • Intel RAPL • Energy Profiling • Performance Benchmarking • Experimentation Platforms

SOFT SKILLS

- Team Leadership & Management
- Project Management (Agile/Scrum)
- Technical Communication
- Problem-Solving & Critical Thinking
- Adaptability & Continuous Learning
- Time Management

CERTIFICATIONS & TRAINING

2023

- Introduction to Agile Development and Scrum (IBM – Coursera)
- Applied Data Science Capstone (IBM – Coursera)
- Machine Learning with Python (IBM – Coursera)
- Data Visualization with Python (IBM – Coursera)

- Databases and SQL for Data Science with Python (IBM – Coursera)

2021

- Introduction to Object-Oriented Programming in Java (EPFL – Coursera)
- Introduction to Programming in Java (EPFL – Coursera)

INTERESTS & ACTIVITIES

Technology: Open-source contributions • Tech blogging • Sustainable computing research

Personal: Reading (Science & Technology, Personal Development, Leadership, Religion) • documentaries (Wildlife, Politics, History) • Cooking • Cinema • Nature