2026 Project List - Build Your Portfolio

Profile: Fouenang Miguel Bruce | Full-Stack Developer + Network & Systems Enthusiast
Experience Level: 1.5 years in Tech (4th Year Engineering Student)
Core Strengths: - CCNA-level Networking (Routing, Switching, VLANs, Security) - Full-Stack Development (Python/Flask, JavaScript, REST APIs) - Linux Systems & Bash Scripting - Docker & Virtualization (VirtualBox, KVM, GNS3) - Network Lab Design (GNS3, Packet Tracer)

Available Tools: Docker images (Grafana, Telegraf, PostgreSQL, MySQL, Jenkins, Gitea, Traefik, N8N, Ollama, Open-WebUI, Redis, MongoDB, Nginx, MinIO, and more)

TIER 1: Quick Wins (1-2 weeks each)

Build confidence + portfolio pieces

1. Network Monitoring Dashboard (PERFECT FOR YOU!)

- **Stack:** Telegraf + Grafana + PostgreSQL + GNS3 labs
- **What You'll Learn:** Network metrics, real-time visualization, monitoring patterns
- **Why Perfect:** Combines your networking knowledge + Docker experience
- **Outcome:** Visual dashboard monitoring network devices, VLANs, traffic
- **Portfolio Value:** ⭐⭐⭐⭐⭐
- **Time:** 1-2 weeks

2. GNS3 Network Lab + Automation (YOUR SPECIALTY!)

- **Stack:** GNS3 + Python scripts + Bash automation
- **What You'll Learn:** Network automation, scripting, infrastructure-as-code
- **Why Perfect:** Pure networking + automation - your wheelhouse
- **Outcome:** Automated network deployment with configs
- **Portfolio Value:** ⭐⭐⭐⭐⭐ (Cybersecurity/Network jobs LOVE this)
- **Time:** 1-2 weeks

3. Flask API + PostgreSQL with Docker

- **Stack:** Flask + PostgreSQL + Docker + Redis caching
- **What You'll Learn:** API best practices, containerization, caching
- **Why Perfect:** Build on your Flask experience, add DevOps layer
- **Outcome:** Production-ready REST API in containers
- **Portfolio Value:** ⭐⭐⭐⭐
- **Time:** 1-2 weeks

4. Docker Compose Multi-Stack (Infrastructure Layer)

- **Stack:** Nginx + PostgreSQL + Flask app + Redis
- **What You'll Learn:** Orchestration, networking between containers, infrastructure design
- **Why Perfect:** Shows DevOps maturity
- **Outcome:** Complex Docker network working together

- **Portfolio Value:** ⭐⭐⭐⭐
- **Time:** 1 week

TIER 2: Medium Projects (3-4 weeks each)

More complex, better portfolio impact

5. Full CI/CD Pipeline for Network Automation

- **Stack:** Gitea + Jenkins + Docker + Python scripts
- **What You'll Learn:** Automation pipeline, network deployments
- **Why Perfect:** Automate your GNS3 labs + network configs
- **Outcome:** Git push → Auto-deploy network changes
- **Portfolio Value:** ⭐⭐⭐⭐⭐ (HIGHLY MARKETABLE)
- **Time:** 3 weeks

6. Network as Code Project (Infrastructure as Code)

- **Stack:** Terraform/Ansible + GNS3 + Python + Docker
- **What You'll Learn:** IaC patterns, automation, reproducible infrastructure
- **Why Perfect:** Take your networking skills to DevOps level
- **Outcome:** Reproducible network infrastructure from code
- **Portfolio Value:** ⭐⭐⭐⭐⭐ (ENTERPRISE GOLD)
- **Time:** 3-4 weeks

7. Advanced Flask Web App + Networking Features

- **Stack:** Flask + PostgreSQL + Nginx + Docker + WebSocket
- **What You'll Learn:** Real-time networking monitoring UI, streaming data
- **Why Perfect:** Combine backend development + network monitoring
- **Outcome:** Web dashboard showing live network metrics
- **Portfolio Value:** ⭐⭐⭐⭐⭐
- **Time:** 3-4 weeks

8. Cybersecurity Lab - Automated Network Penetration Testing

- **Stack:** GNS3 + Python scripts + Security tools
- **What You'll Learn:** Network security, vulnerability scanning, automation
- **Why Perfect:** Leverages your networking + scripting skills
- **Outcome:** Automated security testing framework
- **Portfolio Value:** ⭐⭐⭐⭐⭐ (CYBERSECURITY JOBS)
- **Time:** 3-4 weeks

9. Network Traffic Analysis & Logging System

- **Stack:** Telegraf + Grafana + PostgreSQL + Python + Nginx
- **What You'll Learn:** Network analytics, data visualization, logging patterns
- **Why Perfect:** Real networking data + visualization
- **Outcome:** System analyzing and visualizing network traffic patterns
- **Portfolio Value:** ⭐⭐⭐⭐

- **Time:** 3 weeks

TIER 3: Advanced Projects (1-2 months each)

Impressive portfolio + enterprise-level skills

10. Complete Network Infrastructure as Code

- **Stack:** GNS3 + Terraform + Ansible + Docker + Jenkins
- **What You'll Learn:** Enterprise infrastructure, automation, documentation
- **Why Perfect:** All your skills combined at enterprise level
- **Outcome:** Fully automated, reproducible network infrastructure
- **Portfolio Value:** ⭐⭐⭐⭐⭐ (SENIOR LEVEL)
- **Time:** 6-8 weeks

11. Kubernetes Networking & Security Lab

- **Stack:** Kubernetes + Network Policies + GNS3 + Cilium/Calico
- **What You'll Learn:** Container orchestration, advanced networking
- **Why Perfect:** Next evolution of your Docker + networking skills
- **Outcome:** Secure Kubernetes cluster with custom network policies
- **Portfolio Value:** ⭐⭐⭐⭐⭐
- **Time:** 4-6 weeks

12. Enterprise Network Monitoring at Scale

- **Stack:** Grafana + Telegraf + Prometheus + GNS3 labs + MongoDB
- **What You'll Learn:** Enterprise monitoring, metrics at scale
- **Why Perfect:** Production-grade monitoring of real networks
- **Outcome:** Comprehensive network monitoring system
- **Portfolio Value:** ⭐⭐⭐⭐⭐
- **Time:** 4-6 weeks

13. Full-Stack SaaS with Network Integration

- **Stack:** Flask + PostgreSQL + Nginx + Docker + React/Vue frontend
- **What You'll Learn:** Full product lifecycle, deployment, scaling
- **Why Perfect:** Build product, deploy, monitor all layers
- **Outcome:** Complete SaaS application ready for users
- **Portfolio Value:** ⭐⭐⭐⭐⭐
- **Time:** 6-8 weeks

14. Network Automation Framework (For DevOps/NetOps)

- **Stack:** Python + Ansible + Docker + Git + Jenkins
- **What You'll Learn:** Scalable automation, network orchestration
- **Why Perfect:** Your networking + Python skills in enterprise context
- **Outcome:** Reusable framework for network automation
- **Portfolio Value:** ⭐⭐⭐⭐⭐ (NETWORKOPS JOBS)
- **Time:** 4-6 weeks

TIER 4: Specialization Tracks

Pick 1-2 based on your career goals

DevOps/Infrastructure Track

- Infrastructure as Code (Terraform)
- Configuration Management (Ansible)
- Kubernetes deep-dive
- Container security
- **End Goal:** Senior DevOps Engineer

Backend/API Track

- RESTful API design + best practices
- GraphQL implementation
- Microservices patterns
- Message queues (RabbitMQ)
- **End Goal:** Backend Engineer / Architect

Full-Stack Development Track

- Modern frontend framework
- Backend API development
- Real-time features (WebSocket)
- Payment/Auth integration
- **End Goal:** Full-Stack Engineer / Startup founder

Data/Analytics Track

- Data pipeline engineering
- Analytics dashboards
- Data warehousing
- ML model integration
- **End Goal:** Data Engineer / Analytics Engineer

🎯 RECOMMENDED ROADMAP FOR YOU (2026)

YOUR UNIQUE PATH: Full-Stack DevOps + Network Engineer

You have a rare combination - networking expertise + development skills + DevOps mindset. This is GOLD in the job market.

Q1 2026 (Jan-Mar) - Foundation & Quick Wins

Time: 6-8 weeks

1. **Network Monitoring Dashboard** (1-2 weeks)
   - Use your GNS3 labs + Telegraf + Grafana
   - Quick portfolio piece
   - Shows DevOps thinking
2. **GNS3 Network Lab + Automation** (1-2 weeks)
   - Showcase your networking expertise
   - Add Python automation layer
   - Pure competitive advantage
3. **Flask API + Docker** (1-2 weeks)
   - Strengthen full-stack skills
   - Production-ready container

Q1 Outcome: 3 strong projects showing Network + Dev + DevOps blend

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Q2 2026 (Apr-Jun) - Specialization

Pick ONE path (4-6 weeks each):

Path A: DevOps/Cloud (HIGHEST DEMAND 2026)

- **Full CI/CD Pipeline for Network Automation** (3-4 weeks)
- **Network as Code Project** (3-4 weeks) **Outcome:** Senior-level DevOps engineer skills

Path B: Network/Security (NICHE BUT HIGH-PAYING)

- **Advanced Network Monitoring at Scale** (4-6 weeks)
- **Cybersecurity Lab - Penetration Testing** (3-4 weeks) **Outcome:** Network security engineer skills

Path C: Full-Stack + DevOps (MOST FLEXIBLE)

- **Advanced Flask Web App + Networking Features** (3-4 weeks)
- **Docker Compose + CI/CD** (2-3 weeks) **Outcome:** Full-stack engineer with DevOps knowledge

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Q3 2026 (Jul-Sep) - Advanced Project

Pick based on Q2 specialization:

- **Path A Folks:** Kubernetes Networking & Security Lab
- **Path B Folks:** Complete Network Infrastructure as Code
- **Path C Folks:** Full-Stack SaaS with Network Integration

Q4 2026 (Oct-Dec) - Enterprise Ready

- Polish projects for production
- Comprehensive documentation
- Deploy publicly on your server
- Blog about learnings
- Update CV

- Start interviewing for mid/senior roles

🏆 Career Options by End 2026

After completing this roadmap, you're positioned for:

1. **DevOps Engineer** - High demand, $80-120k
2. **Network Engineer + DevOps** - Rare combo, $90-130k
3. **Full-Stack Developer** - $70-100k
4. **Cloud Infrastructure Engineer** - $85-125k
5. **Network Automation Engineer (NetOps)** - $80-120k
6. **Senior Backend Engineer** - $100-150k

Your unique skill blend makes you very marketable!

📊 Expected Outcomes by End of 2026

✅ **5-7 production-ready projects**
✅ **Specialized skillset** (DevOps/Backend/Full-Stack/Data)
✅ **Strong GitHub portfolio**
✅ **2-3 years experience on paper**
✅ **Ready for mid-level positions**
✅ **Clear career direction**

🚀 Getting Started

Choose Your Path: 1. **Want DevOps/Cloud?** → Start with Personal Dashboard + CI/CD 2. **Want Backend?** → Start with Microservices + CI/CD 3. **Want Full-Stack?** → Start with Docker Compose + E-Commerce 4. **Want Data?** → Start with Personal Dashboard + Data Pipeline

Next Step: Pick your first project and let's build it! 💪

Notes

- All projects use Docker images you already have
- Each project can be portfolio-ready with good documentation
- Document your learning process (blog posts = extra portfolio value)
- Deploy projects publicly (GitHub, your own server)
- Keep code clean and organized from day 1