

revs412

Oussama Ait Agnaou

Independent Software Engineer & Network Specialist

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Remote / Morocco

PROFILE

Software Engineer and Network Specialist focused on designing, building, and maintaining reliable technical systems. My work spans business tools, software systems, network infrastructure, automation, deployment, troubleshooting, and technical documentation. I approach projects by clarifying real requirements, choosing maintainable solutions, and making the resulting system understandable for both operators and future developers.

CAPABILITIES

- Business & Software Systems
- Network Infrastructure & Secure Remote Access
- Automation, Deployment & Operations
- Troubleshooting & Technical Documentation

PROFESSIONAL EXPERIENCE

Independent Software Engineer & Network Specialist

2025 – Present

Independent · Remote / Morocco

- Deliver software, infrastructure, automation, deployment, and troubleshooting work for independent clients.
- Design and maintain backend services, business workflows, network access, and self-hosted systems.
- Translate technical requirements into maintainable implementations and clear operational documentation.
- Support projects from investigation through deployment, verification, and handover.

IT Helpdesk

2024

HDI COM

- Provided first-line support for workstations, software, connectivity, and user-access issues.
- Diagnosed Windows, network, and peripheral faults, escalating unresolved incidents with clear findings.
- Assisted users with setup, configuration, and routine technical troubleshooting.

EDUCATION

OFPPT

2022 – 2024

Digital Infrastructure: Systems & Networks

African Leadership X (ALX)

2023 – 2024

Software Engineering Programme – Backend Development

Software Engineer Certificate · September 2024

WireGuard Admin Access Manager

Jul 2026

Infrastructure / access management

Designed an administrative access-management tool around WireGuard for a segmented environment where public services, VPN entry points, private networks, and sensitive systems have distinct trust boundaries. The proposed workflow manages the full peer lifecycle, provisioning, access scope, review, expiry, revocation, and configuration generation, while limiting technicians and administrators to the subnets and services they actually need. It pairs the VPN model with DMZ placement, private-network separation, auditable access records, and CLI-oriented operations so remote administration remains deliberate rather than a shared-network shortcut.

Client-Facing Technical Documentation

Jun 2026

Practical project

Produced client-facing planning material for a business infrastructure initiative spanning application workflows, network equipment, routers, mini PCs, VPN access, server direction, and SIM-bank planning. The work translated implementation-heavy concerns into project briefs, architecture diagrams, equipment lists, and decision-ready PDFs that a non-technical stakeholder could use without losing the important technical boundaries. It separated client communication from internal engineering detail, identified unresolved choices and hardware responsibilities, and made scope, dependencies, and operating assumptions visible before implementation.

Recharge Wallet / SIM-Bank Platform Architecture

Jun 2026

Practical project

Architected a phased merchant recharge platform in which operators maintain wallet balances, request customer mobile recharges through an app, and receive controlled status updates from recharge infrastructure. The design covers mobile and admin workflows, backend balance validation and accounting, SIM-bank or SIM-pool hardware, VPN and network access, monitoring, exception handling, and operational controls. It intentionally treats operator authorization, hardware reliability, financial state changes, security, and support procedures as prerequisites to scaling—not details to add after the application is built.

GOPC Business Website

Feb 2026

Practical project

Built the initial public web foundation for a local computer-hardware business, covering a product catalogue structure, public pages, contact and location visibility, domain and hosting direction, HTTPS, and professional email setup. The implementation deliberately avoided treating visual completion as the goal: product data, stock, quotations, and invoices were planned to evolve into a structured business-system workflow rather than remain duplicated static content. The project established an affordable, maintainable starting point with room for future inventory-backed product updates and operational use.

Odoo Product & Inventory Integration

Feb 2026

Practical project

Defined an Odoo-centered product and inventory workflow for a computer-hardware business whose public catalogue initially relied on static website data. The architecture moves products, availability, quotations, and invoicing into one structured business source while keeping the customer-facing site simple to browse and contact. The work addressed data ownership, product identity, stock synchronization direction, quotation-to-invoice continuity, and the risks of repeatedly maintaining the same information across disconnected tools, creating a clearer path from catalogue presentation to daily business operations.

Invite Management Workflow

Nov 2025

Practical project

Designed a controlled invitation workflow for a private online environment where staff could create access links without losing accountability. The design replaces untracked manual links with rules around authorization, ownership, usage, expiry, revocation, and event logging, so administrators can understand who created an invitation and what happened to it. It focuses on making access management auditable and manageable at operational scale while retaining staff convenience and a clear escalation path for suspicious or misused links.

DVR Remote Camera Access Setup

Aug 2024

Practical project

Planned and validated remote access for a DVR-based camera system by tracing the complete path between the recorder, local network, router, public connection, and viewing device. The work covered DVR addressing and service ports, router and firewall direction, public-IP and ISP constraints, dynamic DNS options, and outside-network testing rather than assuming that a local connection proved remote access would work. The result was a practical field-support approach that treats hardware configuration, network exposure, and client verification as one connected access problem.

SELECTED TECHNICAL NOTES

Pull-Based Backup Replication to OpenWrt Storage

Aug 2026

Infrastructure Operations

Designed and verified a pull-based recovery workflow for a VPS-hosted stateful service, replicating completed backups to an OpenWrt Raspberry Pi with dedicated external storage. Used a restricted SSH identity and rsync so the local system can read only the intended backup artifacts, resume interrupted transfers, and apply retention only after a successful sync. The recovery set includes service state, configuration, and authentication data, creating a practical second storage boundary beyond the VPS.

Router Firmware Recovery Through Serial and Flash Access

Jul 2026

Hardware Recovery

Created a recovery reference for router failures involving corrupted firmware or storage, unstable configuration persistence, and incomplete boot behaviour. The procedure covers observing early symptoms, distinguishing reset behaviour from flash failure, accessing an EdgeRouter X through USB-TTL serial, using bootloader or failsafe paths, interpreting NAND and MTD bad-block signs, and deciding when external flash recovery is warranted. It prioritizes evidence before destructive recovery steps, preserving a path back to the device when ordinary web or SSH administration is no longer available.

Dolibarr to Odoo Migration Tooling

Jun 2026

Business Systems

Designed migration tooling and validation direction for moving business records from Dolibarr into Odoo. The work addresses product, customer, supplier, quotation, invoice, and stock data; field mapping and normalization; stable external IDs; duplicate prevention; relationship preservation; and reconciliation after import. Rather than treating migration as a one-time export, it frames it as a controlled data transition where references must remain traceable, quantities and statuses must be checked, and exceptions must be visible before they become operational errors.

Local LLM Agent for Infrastructure Administration

May 2026

AI Infrastructure

Explored a local AI administration workflow using Qwen models on a desktop GPU and an agent layer for self-hosted infrastructure, network, and systems tasks. The work covers model hosting, GPU inference considerations, tool boundaries, task examples, and the distinction between a model that can suggest actions and a system that can safely execute them. It evaluates local inference as a private, controllable support layer for diagnostics, documentation, and routine administration while retaining human review and limited permissions for impactful operations.

Building a Full-Stack Property Listing Platform

Aug 2024

Full-Stack Development

Documented the construction of a full-stack property-listing application from its data model through its public interface. The work covers relationships between listings, users, images, locations, availability, and bookings; API and serialization direction; frontend cards, detail views, filtering, and state handling; and the deployment concerns needed to make the system usable beyond a local prototype. The emphasis is on designing data relationships and API boundaries early so interface features remain consistent with the underlying business rules.

Building a Minimal Unix Shell in C

Jan 2024

Systems Programming

Implemented a minimal Unix-style shell in C to study how command execution works beneath a terminal interface. The work follows the complete loop of reading input, tokenizing commands, handling built-ins, resolving executables through PATH and environment variables, then coordinating fork, exec, and wait behaviour. It also records parsing and error-handling edge cases, making the project a practical exploration of processes, memory boundaries, exit status, and the distinction between a shell command and the program it launches.