OUSSAMA BACCARA

Software Engineer

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📍 Nabeul, Menzel Temime   in oussama baccara   🎮 pebble

PROFESSIONAL PROFILE

Student at INSAT, passionate about full-stack development, DevOps, systems, and cybersecurity. Experience gained through various personal projects, open-source contributions, and algorithmic practice. Seeking an opportunity to develop my skills within a professional team.

EDUCATION

Baccalaureate
Taieb Mhiri High School, Menzel Temime

📅 Sept 2022 – June 2023

Math-Physics-Computer Science Cycle
National Institute of Applied Sciences and Technology (INSAT)

📅 Sept 2023 – May 2025

Engineering Degree
National Institute of Applied Sciences and Technology (INSAT)

📅 Sept 2025 – Present

EXPERIENCE

Personal Projects

- Developed full-stack **web applications** and microservices, including replicas of **cybersecurity tools**, high-performance **CLI utilities** and **Devops tools**.
- Engineered solutions across multiple paradigms, focusing on secure coding practices and modular architecture.

Open Source Contributions

- **aviralgarg05/NexumDB**
  - **DevOps & CI/CD:** Engineered multi-stage Docker builds and GitHub Actions pipelines for automated Docker Hub publishing on release.
  - **Security & Optimization:** Integrated `cargo audit` for vulnerability scanning and implemented dependency caching, reducing CI build times.
  - *Impact:* PR #30, PR #32, PR #41 (and 2 others)
- **open-ug/conveyor**
  - **K8s Orchestration:** Authored a comprehensive **Helm chart** to modularize deployment; implemented templates for Deployments, Services, ConfigMaps, and **PersistentVolumeClaims** for stateful data handling.

SKILLS

</> Programming Languages:

- **Projects:** RegEx-Engine, Evil-Twin, http-server
  Language: C/C++
  Description: Replicas of system tools and network tools built from scratch.
- **Projects:** InsideOut, InsideOut Website, LockItOut, MindGathering
  Language: Java
  Description: Full-stack applications and compression/decompression tool.
- **Projects:** Uniflow, HTTP-Over-TCP, URL-Digger, MindGathering—Golang-MySQL-REACT
  Language: Go
  Description: Universal workflow orchestrator, Networking tools and full-stack web applications with an HTTP/1.1 protocol replica.
- **Projects:** pdisplay, html2md, MindGathering—Mern-Stack
  Language: JavaScript
  Description: Web applications and utilities for process display and document conversion.
- **Projects:** dotfiles
  Languages: Bash & Lua
  Description: Automation scripts and configuration of the development environment (**Hyprland** on **Arch Linux**). The **dotfiles** repo contains custom configurations for tools like **NeoVim**, **Tmux**, and **Bash**, as well as installation and environment-management scripts. Bash scripts automate repetitive tasks, while Lua is used for **NeoVim** configuration including plugins and editor optimization.
- **Projects:** scanme, EyeOnDirs, dealing-with-passwords
  Language: Python
  Description: Security tools for network analysis and password management.

🗄 Databases
- MySQL, PostgreSQL, MongoDB, Redis, Oracle DB (XA).

🖥 Frameworks
- Spring Boot, Node.js, Express, React, TailwindCSS.

⚙ DevOps & Cloud
- Docker, Kubernetes, Helm, Nix, Jenkins, GitHub Actions, Prometheus, GHCR.

- **Automated Publishing:** Enhanced the `helm-publish` CI workflow to automate the packaging and versioning of charts, streamlining the release cycle to the artifact registry.
  - *Impact:* PR #161 (Feature: Helm Chart Packaging)
- **siri1404/llm-infrastructure**
  - **Security-Focused CI:** Architected a robust CI pipeline integrating **Bandit** for security linting, **pip-audit** for dependency vulnerability scanning, and **Mypy/Black** for type safety and code formatting.
  - **Automated CD:** Developed a Continuous Deployment workflow using **GitHub Actions** to build and push containerized LLM services to the **GitHub Container Registry (GHCR)**.
  - *Impact:* PR #34 (Feature: CI/CD Pipeline Configuration)
- **Open-J-Proxy/ojp**
  - **Distributed Transactions:** Implemented **XA (eXtended Architecture)** support for Oracle Database to ensure ACID compliance and data integrity across distributed transaction environments.
  - **System Optimization:** Enhanced proxy reliability by making **max message inbound size** configurable, preventing memory exhaustion and improving handling of large-scale data payloads.
  - *Impact:* PR #149 (XA Support), PR #65 (Configurable Message Size)

Selected Open Source Activity

- **GCP PAM JIT:** Refactored CLI logic to support **Folder-level IAM requests** alongside Project-level support; updated documentation for Google Cloud identity management workflows. (PR #9)
- **Domino (Erlang):** Optimized GitHub Pages deployment workflows by implementing **conditional execution** to prevent 404 errors during PR previews and integrated **Pure Nix builds**. (PR #36)
- **LinkShrink:** Enhanced system observability by implementing a **Prometheus metrics integration** for tracking URL redirection statistics. (PR #5)
- **Pariksha:** Resolved critical **Null Reference Errors** within the React/Frontend question components, improving application stability. (PR #48)

Explore detailed contributions at: **github.com/ignorant05**

Problem Solving & Algorithms

- Solved complex algorithmic challenges on **LeetCode**, focusing on **Dynamic Programming, Graph Theory, and Backtracking**.
- Focused on optimizing **Time and Space Complexity** ($O(n \log n)$ or better) for large-scale data processing scenarios.

View solved challenges at: **leetcode.com/u/oussamabaccara05**

⚙ Networking & Security
- Wireshark, Nginx, Bandit, pip-audit, Packet Tracer.

CERTIFICATES

- **Networking Basics**
- **Technical Support Fundamentals**
- **The Bits and Bytes of Computer Networking**
- **Hands-on Introduction to Linux Commands and Shell Scripting**
- **GitHub Foundations**
- **Intermediate Docker**
- **Introduction to Kubernetes**
- **Penetration Testing, Incident Response and Forensics**
- **Penetration Testing, Threat Hunting, and Cryptography**
- **Programming in Python**

LANGUAGES

English ●●●●●

French ●●●●○

German ●●◐○○