# EBENEZER NZOMBE

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## EDUCATION

**Université des Sciences et de la Technologie Houari Boumediène (USTHB)**
Bachelor's Degree in Computer Science — Sep 2024 – May 2027 (expected)
Algiers, Algeria

## ACADEMIC INTERESTS

Cybersecurity and secure software systems; data science and exploratory analysis; artificial intelligence, multi-agent systems and probabilistic reasoning.

## ACADEMIC AND INDEPENDENT PROJECTS

**SENTINELLE — AI Satellite Disaster Monitoring** — Apr 2026 – Present
*Final-year project (PFE) | Python, geospatial APIs, JavaScript*

- Developed a bilingual disaster-monitoring interface and a five-agent investigation prototype for wildfire, reservoir and urban-change candidates in Algeria.
- Implemented sequential Bayesian belief updates over competing hypotheses; selected evidence by expected discrimination relative to resource cost, with escalation for inconclusive cases.
- Separated evidence providers from decision logic, supporting deterministic fixtures and NASA FIRMS/Copernicus integrations. Priors and likelihoods remain prototype parameters pending validation.

Interface: entech-ver10-nine.vercel.app

**UniCircle — Student P2P Marketplace** — Independent project
*React, PostgreSQL, Supabase, SQL | Deployed community application*

- Built a mobile-first platform connecting Zimbabwean students in Algeria through USD-denominated listings, administrator-reviewed membership, private order chat and two-party receipt confirmation.
- Implemented integer-cent accounting, transactional listing reservations, row-level access controls and audit records; added tests for authorization, cancellation and account isolation.
- Added manually verified WhatsApp contacts, mutual contact-sharing consent, browser notifications and an email-reminder worker with duplicate-delivery safeguards.
- Improved navigation using scoped queries, indexed pagination, cached views and real-time updates. The platform coordinates exchanges without holding or transferring funds.

Application: zim-connect.vercel.app

**MyBlog / Code.Train.Trade — Agentic Publishing** — Jun 2025 – Present
*React, Node.js, Express, MongoDB, Gemini API*

- Built a publishing workflow in which agents use RSS sources to prepare cited drafts on technology, fitness and finance, with human review before publication.
- Implemented manual editing, article-view tracking, newsletter signup and administrator-only publishing; used persistent job leases and run keys to prevent duplicate scheduled drafts.

Application: en-blog-five.vercel.app

## ADDITIONAL PROJECTS AND TECHNICAL PRACTICE

**Heart-Disease Data Exploration** Independent study

*Python, Pandas, Matplotlib, Jupyter Notebook*

- Explored 303 records with 13 input variables and a binary target; inspected class distribution, age, cholesterol and maximum heart rate through histograms and target-coloured scatter plots.
- Examined an over-50 subset with mean reference lines and saved notebook outputs. Work focuses on exploratory analysis, rather than a validated prediction model.

**Tabular Data Preparation and Numerical Computing** Notebook exercises

*Pandas, NumPy, Matplotlib*

- Applied missing-value handling, grouped summaries and cross-tabulations to vehicle-sales data; used array reshaping, dot products and summary statistics for numerical exercises.

**Algorithms and Data Structures** Coursework and independent practice

*C, C++, Python, JavaScript*

- Implemented queues, stacks, pointer-based structures, dynamic allocation and file-handling exercises; practised recursion, memoization and tabulation for grid paths, target sums and string construction.

**Personal Portfolio — Original Website and PortfolioV2** Feb 2023 – Present

*HTML, CSS, JavaScript; React in the earlier version*

- Developed successive portfolio websites presenting deployed projects, education and community experience; refined mobile navigation, project presentation and a GitHub activity section.

Portfolio: nzombe.vercel.app

**Amazon-Style Shopping Interface** Learning project

*JavaScript, HTML, CSS, browser storage*

- Built product and cart interfaces with persistent cart state, quantity updates, delivery options and checkout cost calculations; added cart behaviour tests.

**Task Manager** Learning project

*React, Vite, Tailwind CSS*

- Implemented task creation, completion toggling and deletion, with local-storage persistence and reusable task components.

**Landing-Page Interface Studies — Nova, EnTech and Label** Front-end practice

*React, CSS, reusable UI components*

- Created landing-page and hero-section studies to practise visual hierarchy, navigation, component composition and layout styling.

## TECHNICAL SKILLS

**Programming:** Python, C++, C, JavaScript, SQL, HTML, CSS

**Data and analysis:** Pandas, NumPy, Matplotlib, Jupyter; exploratory analysis and Bayesian updating

**Applications and tooling:** React, Node.js, Express, PostgreSQL, MongoDB, Supabase, Git, automated testing

## COMMUNITY MEMBERSHIPS

**Google Developer Group (GDG), Algiers** Member, Oct 2026 – Present

**Open Minds Club**, Algiers Member, Nov 2025 – Present

**Micro Club USTHB**, Algiers Member, Sep 2024 – Sep 2025