

■ Adil Asselman

Software Developer – *C / C++ / Python / TypeScript*

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English: fluent · Arabic: native

PORTFOLIO

LIVE ↗

adilasselman.me

An interactive pixel-art studio: projects, experience and skills, one scroll through my day.

Click or scan →



01 / SUMMARY

Started at 1337 (42 Network) in Morocco, building deep systems-level foundations in C and C++ – memory allocators, shells, thread synchronization, and network servers written from scratch with no external libraries. From there I founded Cagrex, a developer-assessment platform, building the full product alone end to end: architecture, evaluation logic, and every piece in between. I then joined Lysi Consulting as a full-stack developer, shipping AI-driven features and enterprise integrations inside a live production platform. Alongside that I've taken on freelance work, delivering complete projects for outside clients – including a full Next.js build and deployment for a TELUS Digital client. Right now I'm building mobile games with Godot and Unity, using Claude Code as part of the workflow.

02 / CORE SKILLS

LANGUAGES C, C++, Python, TypeScript/JavaScript, SQL

SYSTEMS memory management (mmap, alignment, fragmentation), pointer arithmetic, undefined behavior, pthreads & concurrency (data races, deadlocks, mutex ordering), non-blocking I/O (poll/epoll), sockets & protocol parsing, RAII and object lifetimes

AI / LLM Claude & Gemini APIs, prompt design, model-output evaluation, E2B code sandboxes

WEB Next.js, NestJS, React, Node.js, PostgreSQL, MongoDB, Prisma, Convex

GAME DEV Godot, Unity, AI-assisted development with Claude Code

OPS Docker, Nginx, AWS EC2, Vercel, Linux, Git, CI basics (K3s, Argo CD)

03 / EXPERIENCE

Freelance Web Engineer – Upwork · *verified client work*

2026 – present

- Delivered **gulfblueconcepts.com** end to end for a TELUS Digital client: Next.js 14 build, AWS EC2 deployment with Nginx, PM2, Let's Encrypt; repeat engagement earned.

Full-Stack Developer – Lysi Consulting · *AI-powered HR/recruitment platform*

Feb 2026 – Aug 2026

- Built AI-driven product features in TypeScript/Node with LLM integrations; NetSuite OAuth 2.0 M2M integration work.

Founder & Full-Stack Engineer – Cagrex (*cagrex.com*) · *developer assessment for the AI era*

Jun 2025 – Dec 2025

- Designed and built two-phase coding assessments: logic challenges plus real build tasks executed with AI assistance inside E2B sandboxes under fixed token budgets.
- Wrote evaluation rubrics scoring code understanding, efficiency, and working style – directly comparable to RLHF-style model/code evaluation.
- Full production stack: Next.js, NestJS, PostgreSQL, Convex, Claude & Gemini APIs.

04 / SELECTED PROJECTS

Flockfall – *mobile game, live on Google Play* – An action-puzzle game: guide a bird flock through a handcrafted 2D sky, survive and grow your numbers.

ft_malloc – *custom memory allocator (C)* – Reimplemented malloc/free/realloc on mmap: zone management, block splitting/coalescing, alignment, fragmentation control.

minishell – *POSIX shell (C)* – Lexer, parser, pipes, redirections, signals, environment expansion; process control with fork/execve/waitpid.

Philosophers – *concurrency simulation (C)* – Dining philosophers with pthreads: mutex ordering, race and deadlock prevention, precise timing under contention.

IRC server – *(C++)* – Non-blocking sockets with poll(), multi-client protocol parsing, command state machine, channel and mode management.

cub3D – *raycasting 3D engine (C)* – Real-time raycasting renderer: fixed-step math, texture mapping, map parsing and validation.

Inception / IoT – *infrastructure* – Dockerized Nginx/MariaDB/WordPress stack; K3s + Argo CD GitOps cluster deployments.

05 / EDUCATION

1337 Coding School – 42 Network, Morocco – project-based curriculum completed; peer-evaluated systems programming in C/C++ (Common Core). 1337 projects are pure C / C++ with no external libraries.