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## Summary

Self-taught software engineer with a strong background in C#, Python, and TypeScript. Experienced in designing modular, data-driven architectures and scalable backend systems for games, tools, and AI-integrated platforms. Known for reliability, adaptability, and end-to-end problem solving developed through both technical and real-world experience. Currently seeking software engineering, backend, or AI integration opportunities.

## Software Projects

Highlighted projects available for review at [portafolio page](#).

### **NebulaView: Provider-First Content Discovery System – Full Stack Developer** (Next.js, TypeScript, Consumet, Redis)

Advanced streaming platform with intelligent multi-provider architecture and AI-assisted development workflow.

- Designed **provider-first** architecture using **Consumet** extensions for **meta enrichment** and 10+ provider fallback chains
- Created **REST API** endpoints with health-aware routing, **TMDB** proxy services, and comprehensive caching strategies
- Implemented **AI skills** integration for automated testing (**Playwright**), design reviews, and code quality enforcement
- Built reactive particle system, dynamic theming, and multilingual support with **Supabase** auth persistence
- Demonstrated scalable backend patterns, performance optimization, and modern full-stack development practices

### **Enterprise AI CRM: Human-in-the-Loop Orchestrator – System Architect (Python, FastAPI, React, Docker)**

Production-grade orchestration system integrating **Local LLMs with WhatsApp** for compliant, observable, and human-supervised AI communication.

- Designed **deterministic Guardrail Engine** enforcing safety policies (political, medical, legal).
- Implemented **Human-in-the-Loop (HITL)** approval workflow via WebSocket channels.
- Built **intent-based orchestration** and configurable AI context pipeline for multi-tenant setups.
- Integrated **Prometheus observability** with latency histograms, token metrics, and violation counters.
- Deployed modular FastAPI + React + Docker architecture with real-time monitoring.

## Local AI Companion Framework – Systems Architect (C#, Python, Local LLMs)

Offline, privacy-first AI companion system with contextual memory and dialogue capabilities.

- Developed modular architecture for dialogue flow, memory persistence, and persona modeling
- Integrated local LLM wrappers for offline inference and response generation
- Enabled persistent, contextual interactions without cloud dependency

## ResourceManager – TypeScript Backend Toolkit (Node.js, TypeScript)

Modular backend architecture for scalable resource management in web services.

- Implemented controller–service–model structure with role-based middleware
- Emphasized clean design, decoupling, and type-safe data flow using TypeScript
- Demonstrated backend scalability patterns used in modern SaaS and microservice architectures

## 3D Learning Prototype – Modular Game Architecture & Persistence – Solo

Developer (Unity, C#)

Conceptual RPG framework demonstrating scalable systems for character progression and persistence.

- Designed an **Entity–Attribute–Progression (EAP)** system using Inversion of Control
- Built a robust, data-driven serialization and save/load framework
- Showcased runtime modularity suitable for large-scale RPGs

## Echo-Location Maze System (ELMS) – Solo Developer (Unity, C#)

Procedural maze generator with echo-based reveal mechanics and designer debug tools.

- Built runtime generation logic using event-driven reveal systems
- Created editor tooling for maze preview and tuning
- Enabled rapid iteration for level designers

## Custom HTML5 Video Playback & Control Plugin – Engine Integrator (JavaScript,

RPG Maker MZ)

Extended RPG Maker MZ's engine for advanced video playback and cinematic control.

- Added DOM-level playback speed, looping, and fade transitions
- Integrated custom wait modes and skip input into the engine interpreter

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## Technical Summary

- **Languages:** C#, Python, TypeScript, JavaScript, Java, HTML, CSS, SQL
- **Frameworks & Tools:** Unity, Node.js, FastAPI, React, Docker, Git, REST APIs
- **Concepts:** Software Architecture, Data-Driven Design, Runtime Systems, AI Integration
- **Soft Skills:** Dependability, Collaboration, Problem Solving, Adaptability, Time Management

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## Professional Experience

## **Independent Software Engineer / Systems Developer**

*Self-Employed / Personal Projects | 2021 – Present | Remote*

- Designed and implemented **scalable modular systems** for games, backend tools, and AI systems.
- Integrated **local AI inference systems** using Python and C#.
- Delivered multiple **production-ready prototypes** demonstrating full-cycle development.
- Built advanced **streaming** platforms with **multi-provider architecture** and **AI integration**

## **Customer Support & Technical Advisor**

*ExtremeTech | 2023 – 2025 | Heredia, Costa Rica*

- Provided technical support for computer hardware/software.
- Diagnosed and resolved customer issues with high satisfaction.
- Helped improve internal procedures for the support department.

## **Bar Operations & Service Lead**

*Caccio's Rock Bar-Restaurant | 2022 – 2023 | San José, Costa Rica*

- Promoted from entry-level to bar lead.
- Managed operations, staff coordination, and training.
- Recognized for reliability and leadership under pressure.

## **General Support & Maintenance Assistant**

*Almacenes Siman | 2018 – 2020 | Curridabat & Escazú, Costa Rica*

- Supported logistics, maintenance, and inventory operations.
- Assisted with electrical and air-conditioning upkeep.
- Built strong teamwork and work ethic in dynamic environments.

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## **Education**

**Universidad Fidélitas** — *Computer Systems Engineering (Paused)*

Focus: Software architecture and systems design.

**Universidad Veritas** — *Animation & Visual Design (Incomplete)*

Explored design and storytelling before transitioning to software development.

**Independent Path:** Ongoing self-study in **programming, game architecture, backend systems, and AI integration** through project-based learning.

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## **Languages**

**Spanish:** Native

## Personal Background & Motivation

Began programming at age 12 by recreating classic games like *Mario* and *Prince of Persia*. Self-taught in programming, art, and music — passionate about building complete systems from scratch. Despite financial challenges, continued learning through discipline and hands-on experimentation, developing a results-driven and creative engineering mindset.