Steven Aguilar Alvarez

Full-Stack Developer · Computer Engineering Student
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Summary

Computer Engineering student (five semesters completed) focused on full-stack development, with hands-on experience designing relational databases, building REST APIs and deploying web applications to the cloud, backed by a solid foundation in algorithms, distributed systems and low-level programming. Experienced working both independently and in teams. English B2.

Technical Skills

Languages: TypeScript/JavaScript, Python, C#, C/C++, Java, SQL (PostgreSQL, T-SQL), x86 Assembly, Prolog, Racket
Frontend: React, Next.js, TanStack Router and Query, Tailwind CSS
Backend and data: Node.js, Hono, Express, ASP.NET Core, REST APIs, Drizzle ORM, PostgreSQL, SQL Server, SQLite
Cloud and tools: Cloudflare Workers and R2, Vercel, Neon, GitHub Actions, Docker, Git, Grafana, Arduino, LTspice
Core: algorithms and data structures, distributed systems, OOP and design patterns, networking (TCP, HTTP, TLS)

Projects

Kurs – Full-Stack Academic Management Platform kurs-org.vercel.app
TypeScript, React 19, Hono, Drizzle ORM, PostgreSQL (Neon), Cloudflare Workers, Vercel *Solo project · 2026 – Present*

- Built the platform end to end: 26 tables, 29 migrations, 20 API modules, invite-only auth, roles and storage quotas.
- Implemented a rubric grade calculator with TEC rounding rules and a schedule planner fed by a live catalog synced every 6 hours.
- Migrated the API to Cloudflare Workers; added direct-to-R2 presigned uploads and CI/CD with GitHub Actions.

TEC Media File System – Distributed RAID 5 Storage github.com/stevmzz/TEC-MFS
C#, .NET 8, ASP.NET Core Web API, REST/JSON, Windows Forms *Team of 3 · 2025*

- Built a distributed PDF store: 64 KB blocks striped across 4 HTTP disk nodes with rotating XOR parity and SHA-256 checks.
- Implemented degraded reads that rebuild missing or corrupt blocks from parity.
- Wrote the shared library, HTTP layer (pooled clients, retries) and REST endpoints; integrated the RAID manager and GUI.

Genetic Kingdom – Evolving Tower-Defense Game github.com/stevmzz/Genetic-Kingdom
C++17, SFML, CMake *Team of 3 · 2025*

- Genetic algorithm (selection, crossover, adaptive mutation, diversity control) that evolves enemy stats every wave.
- Built A* pathfinding with live re-routing and a check that rejects tower placements that would block the path.
- Wrote the game shell (state stack, menus, audio) and a custom dynamic array used in place of `std::vector`.

F1 Garage Manager – Database-Driven Web App (fictional data)
SQL Server (T-SQL), Express, React, Grafana, Docker *Team of 4 · 2026*

- Worked on a SQL Server app with rules enforced in the schema, transactional stored procedures and saved race simulations.
- Built session authentication (argon2, role-based access), the React views and the race-simulator front end.
- Created the SQL views and a 3-panel Grafana dashboard for simulation analytics.

More projects: IntelliHome (Arduino, Python, Kotlin/Java, SQLite), Socialtec (Python, TCP sockets, graph algorithms), RegistroCE (8086 assembly), TLS-and-HTTPS (C#), TransLog (Prolog), BusCEMinas (Racket), Illuminator (Arduino).

Education

Instituto Tecnológico de Costa Rica (TEC) Cartago, Costa Rica
Computer Engineering (172-credit plan), five semesters completed *2024 – Present*
Coursework: Algorithms and Data Structures I–II, Programming Paradigms, Databases, Discrete Mathematics, Differential Equations
Also: Network Informatics technical diploma (CTP La Suiza) · Conversational English diploma (INET) · Cisco IT Essentials

Experience

Administrative Support Intern Turrialba, Costa Rica
Nursing home, specialty internship *2 months, 2023*

- Digitized paper records through scanning and file organization.
- Built an invoice-tracking spreadsheet in Excel from scratch, recognized by staff for its accuracy and organization.

Spoken languages: Spanish (native) · English (B2)