

Juan Diego Figari

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Summary

Intermediate Computer Science student at UBA with a systems-oriented focus. Experience designing and implementing event-driven servers in C, REST APIs in Go, and functional programs in Haskell and Prolog. Strong emphasis on explicit protocol design, state ownership, and incremental, correctness-first development on Linux.

Skills

- **Languages:** C, Go, TypeScript, Python, Haskell, Prolog, Java (light), JavaScript, HTML/CSS
- **Systems / Concepts:** UNIX domain sockets, TCP fundamentals, `select()`, event-driven I/O, protocol framing, client-server architectures, explicit state ownership
- **Tools / Misc:** Linux, Bash, Git, Valgrind, GDB, QEMU, PostgreSQL, CURL, basic scripting and automation, security wargames (OverTheWire), GeoJSON
- **Areas:** Algorithms, data structures, systems programming, OOP, functional & logic programming

Projects

Geospatial Data Visualization — Buenos Aires Subway 2026

[GitHub Repository](#)

- Web-based map visualization built with MapLibre GL JS using public datasets from the City of Buenos Aires.
- Designed an offline data transformation pipeline to normalize heterogeneous CSV and GeoJSON sources.
- Chose a segment-based rendering model to preserve original geometries and avoid incorrect topological assumptions.
- Emphasis on correctness, explicit data assumptions, and reproducible transformations.

Event-Driven Chat Server in C 2025

[GitHub Repository](#)

- Single-process, single-threaded, multi-client chat server using UNIX domain sockets (`AF_UNIX`, `SOCK_STREAM`) with `select()`.
- Layered protocol: framing, grammar, execution; explicit state ownership and deterministic transitions.
- Incremental, auditable design prioritizing correctness and debuggability.

REST API To-Do Server in Go 2025

[GitHub Repository](#)

- REST endpoints with basic authentication, PostgreSQL integration, and `curl`-based testing.
- Early Go project focused on learning the language, standard library usage, and backend API structure.

Functional & Logic Programming Work 2025

[GitHub Repository](#)

- Haskell & Prolog exercises: recursive structures, type-safe functional patterns, logic-based problem solving.
- Introduced to commit conventions and basic TDD practices.

Education

Bachelor in Computer Science — University of Buenos Aires, in progress (53% completed)

Bilingual High School (Science & Computer Focus) — Liceo Franco Argentino Jean Mermoz

Languages

- Spanish: Native
- English: Advanced
- French: Advanced

Experience

Urbanly LLC — Junior Engineer

Jan 2026–present

- Working on geospatial simulation systems for urban planning: agent-based modeling, accessibility calculations, and spatial data infrastructure.
- Tech stack: C++ services (Carpincho, Bigfoot), TypeScript/React (CityCompass), PostgreSQL/PostGIS.

McDonald's - Arcos Dorados S.A.

2023–2024

- Customer service, cash handling, end-of-day closing; recognized as standout performer.

Piano Instructor (freelance)

2021–2025

- Private lessons and autonomous student management.