Federico Ruckauf

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INFORMATICS ENGINEERING · ROBOTICS · FIFTH YEAR, ITBA

Buenos Aires, Argentina

Fifth-year Informatics Engineering student at ITBA. Ten built projects across robotics and software - SLAM navigation, industrial cobots, an FPV drone, a compiler, a published npm package - plus a semester as Director of ITBA's IEEE-RAS robotics group.

ROS 2 · SLAM / Cartographer · Embedded C · Python · Node.js / Next.js · Compilers · Unity / C# · 3D printing

EDUCATION

Instituto Tecnológico de Buenos Aires

BSc Informatics Engineering · May 2022 – Present

Fifth and final year. CABA, Argentina.

UPC - Facultat d'Informàtica de Barcelona

Exchange program · Feb – Jul 2026

A semester living and studying in Barcelona, Spain.

Colegio Nacional de Buenos Aires

Bachelor · Mar 2017 – Dec 2021

LEADERSHIP

IEEE-RAS Student Robotics Group, ITBA

Director, Aug – Dec 2025 · Participant, Mar – Jul 2025

Led the group's student robotics initiatives and coordinated teams across concurrent builds. Contributed to group projects including the El Toro mini-sumo robot.

COMPETITIONS & PROGRAMS

HackITBA 2025 - Finalist. AI flashcards app (FlashYa).

UTN FRBA Robotics Competition 2025. Participant.

TRAMA Entrepreneur Bootcamp 2025. Participant.

ROBOTICS PROJECTS

Self-Navigating SLAM Robot

2025 – ongoing

Raspberry Pi robot mapping and navigating unknown spaces by fusing odometry with depth sensing.

El Toro - Mini Sumo Robot

2025 · IEEE-RAS ITBA

Differential drive, IR ring + ultrasonic sensing. I worked on the electronics and wrote the fight state machine. github.com/Fedir03/El-Toro-RAS

TurtleBot 3 Autonomous Navigation

2026 · UPC FIB

Cartographer SLAM and autonomous path planning on ROS 2.

Robotic Arm with Computer Vision

2026 · in progress

3D-printed arm on AX-12 servos, grasping objects located by a vision pipeline.

UR3e Collaborative Robot

2026 · UPC FIB

Pick-and-place and palletizing routines on an industrial cobot.

FPV Racing Drone

2025

Built from parts: Martian II frame, 2300KV motors, Walksnail HD video link.

SOFTWARE PROJECTS

Pingustar - Centralized Ratings & Reviews

Node.js, Next.js, REST APIs, npm

Designed and built a decoupled, reusable service to process and persist product ratings. Published a modular, framework-agnostic npm package for easy integration into web clients. pingu-components · pingustar-api

Cellular Automata Generator

2025

Compiler for a custom cellular-automata language, emitting runnable Pygame simulations. Built for Language Theory & Automata. github.com/fardenghi/TP-TLA

FlashYa

2025 · HackITBA finalist

AI-generated study flashcards from any source material. github.com/leoWeitz/flashYa

2D Multiplayer Platform Fighter

in progress

Unity fighting game with networked multiplayer and state synchronisation.

SKILLS

Programming: C, C++, C#, Java, Python, JavaScript, SQL, Assembly

Robotics & embedded: ROS 2, SLAM (Cartographer), embedded C, sensor fusion, Arduino, 3D printing

Software: React, Angular, Node.js, Next.js, REST APIs, npm packaging, compilers, Unity / C# netcode, Playwright, Pygame

Tools: Git, VS Code, IntelliJ, Unity, Unreal Engine, Arduino IDE
AI-assisted development: Claude Code CLI, Google Antigravity, spec-driven agentic workflows

LANGUAGES & CERTIFICATIONS

Spanish	Native
English	Bilingual / full professional proficiency
Italian	Reading knowledge
French	Reading knowledge

Cambridge Certificate of Proficiency in English (CPE) - Grade A