Erick Donado

Barranquilla, Colombia • erickfabiandonado@gmail.com
erickdonado.com • linkedin.com/in/erickdonado • github.com/KanuSaru

Summary

Systems Engineering student (GPA 4.05/5.00) building machine learning models, backend APIs, and web tools in Python, C, and TypeScript, and author of three open-source JavaScript libraries on npm. Published researcher in medical-imaging AI, former IEEE student chapter president, and bilingual (English C1) instructor who has taught STEM and programming from 4th grade to master's level.

Technical Skills

- **Languages:** Python, C, C++, SQL, JavaScript, TypeScript, HTML/CSS.
- **Machine Learning & Data:** TensorFlow, PyTorch, Scikit-learn, OpenCV, Pandas, Matplotlib, Seaborn; CNNs/U-Net for image segmentation, LLM evaluation.
- **Backend & Web:** FastAPI, Flask, SQLAlchemy, REST APIs, JWT, React, Next.js, Node.js/npm, Postman.
- **Tools & Practices:** Git/GitHub, GitHub Actions, Railway, Jira, agile workflows, Excel.
- **Languages (spoken):** Spanish (Native), English (C1).

Experience

Data Sciences Research Seedbed, Simón Bolívar University Barranquilla, Colombia
Machine Learning Researcher 2023 - Present

- Built deep learning models (U-Net) for automated breast cancer segmentation in ultrasound images; results published in a journal article and a book chapter and presented at 5 national and international events.
- Implemented a machine learning framework from scratch in C to study model training at a low level.
- Evaluating racial and gender bias in large language models for the Afro-Colombian context.

Chico Vence Academy Barranquilla, Colombia
STEM & Language Instructor 2024 – September 2026

- Taught Mathematics, Geometry, Statistics, Physics, English, and Programming from 4th grade to master's level, with tailored strategies for students with special learning needs (ADHD, ASD).
- Mentored and tutored over 1,000 students, achieving a near 100% course pass rate; developed custom materials on logical reasoning, quantitative analysis, and programming.

CAMFI, PIM-D Barranquilla, Colombia
Academic Tutor (Monitor) August 2023 – June 2025

- Supported professors with course materials, programming assignments, and tutoring in algorithms and programming.

Projects

- **Open-source npm libraries** (JavaScript; Web Components and React): **dither-model**, a software 3D renderer that draws any STL as 1-bit pixel art, with an STL parser, mesh simplification and a CLI; **dither-moon**, the Moon at its real phase from NASA lunar maps; **dither-player**, a music player with an audio visualizer.
- **leave-a-mark** (2026): open-source guestbook as a serverless backend on Cloudflare Workers and D1 (SQLite), with Turnstile bot protection, rate limiting, signed-cookie admin sessions and Discord/email alerts; tested against an in-memory database. **still-breathing**: dependency-free CLI link checker that runs monthly in GitHub Actions and opens an issue when links die.
- **Learn ML** (2026): free, bilingual (English/Spanish) self-study route into machine learning published on my website, adapted from an open course: 5 phases and 73 curated resources in three priority levels, with self-checks and progress tracking.
- **Personal website**: bilingual Next.js/TypeScript site with a software-rendered 3D scene, live API widgets, and a journal encrypted in the browser (AES-GCM); deployed with GitHub Actions.
- **Frostvale SQL**: yearly SQL competition website with a live leaderboard, teams and classes; FastAPI backend on Railway and GitHub Pages frontend, bilingual (English/Spanish).

- **OTP Authentication API**: user authentication service with FastAPI, SQLAlchemy, and SQLite, using email one-time passwords and JWT tokens.
- **Living Dex Planner**: web app that plans Pokémon collection routes across multiple game generations by consuming PokéAPI; deployed on GitHub Pages.

Education

Simón Bolívar University Barranquilla, Colombia
Systems Engineering 2023 - Present

- Cumulative GPA: **4.05 / 5.00**. Honor Roll, **Undergraduate Research Excellence Award** (Elite category), 2025-2 and 2026-1.
- 2nd place, Integrative Projects Fair (2023).

Leadership & Activities

IEEE Computational Intelligence Society Barranquilla, Colombia
Student Branch Chapter President September 2024 - 2026

- Led and coordinated a team of 5+ members to organize events, workshops, and seminars on AI and computational intelligence.
- Increased chapter membership by 30% through outreach initiatives, and organized a workshop on AI-driven models with over 50 participants.
- Fostered collaboration between universities and industry, and secured sponsorship to fund technical resources and guest speakers.

IEEE Computer Society, Simón Bolívar University Chapter Barranquilla, Colombia
Competitive Programming Instructor & Workshop Speaker April - October 2024

- Taught 27 weekly 4-hour sessions (108 hours) on competitive programming, data structures, and algorithms to prepare the Byte2Solution programming team for IEEEXtreme 18.0.
- Led the hands-on workshop *Data Analysis and Visualization with Python* (May 2024).
- Invited speaker at the launch of the IEEE Computer Society and RAS chapters at UNITECNAR, Cartagena (Oct 2024), on the evolution of AI and its impact on competitive programming.

Community Volunteering Barranquilla, Colombia
Volunteer & Event Staff 2024

- Volunteer, Hacktoberfest Barranquilla 2024 (Caribe Dev, IEEE Student Branch Universidad del Norte).
- Logistics team, IX International Meeting on Artificial Intelligence, Simón Bolívar University.

Certifications, Competitions & Publications

- **Fundamentals of Generative AI** (75 hours, 3 ECTS), Universidad Internacional de La Rioja (UNIR), Spain, 2026; grade 9.9/10 (Outstanding). Prompt engineering, AI limitations, and ethics (bias, privacy, legal risks).
- **Certificate in Teaching Fundamentals** (120 hours), Department of Pedagogy, Simón Bolívar University, 2024.
- **IEEE Certification in Web Design and Development** (HTML, CSS, JavaScript, responsive design, UX), 2025. IEEE Student Member.
- **NASA International Space Apps Challenge**, participant, 2025.
- **Google Developer Groups "Build with AI" Hackathon** (48 hours), Barranquilla, 2025.
- **IEEEXtreme 18.0** global programming competition (19,000+ participants), 2024.
- **Winner**, SolidWorks course competition, IEEE Student Branch, Universidad Autónoma del Caribe, May 2024.
- **University Leadership School** (4th edition), for leaders of student groups, Simón Bolívar University, Aug 2024.
- **Publications:** 1 journal article (*Publicaciones e Investigación*, UNAD, 2026) and 1 book chapter (Ediciones Universidad Simón Bolívar, 2024) on deep learning for breast cancer segmentation.