

ROGER RIVERO

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SUMMARY

AI Engineer and Mathematician with a strong foundation in pattern recognition, text parsing algorithms, and competitive programming. Specialized in architecting high-performance AI intelligence layers and scalable full-stack environments. Proven expertise bridging advanced mathematics and machine learning methodologies with production-grade systems to build robust, low-latency AI applications.

EXPERIENCE

Eight32 | *Founder & Lead AI Architect* | Feb 2026 – Present

- Architected a high-performance AI intelligence layer, deploying robust FastAPI backends via Google Cloud Run backed by Supabase.
- Built advanced data pipelines utilizing custom sanitizers for LLM-generated JSON, managing asynchronous streams for real-time inference delivery.
- Implemented asyncio.Queue event-driven architectures and NumPy-based geometric reranking to optimize data processing pipelines and ensure sub-millisecond retrieval.
- Enforced AI-Native Engineering workflows through aggressive code colocation and stateless JWT authentication, optimizing database I/O and LLM context retention.

CENPIS (Center for Neuroscience, Image and Signal Processing Studies) | *Software Developer* | 2018 – 2020

- Engineered image compression algorithms and implemented Support Vector Machines (SVM) in Python to classify and analyze complex datasets.
- Structured large-scale text and image datasets for analytical processing, supporting advanced pattern recognition and machine learning tasks.

University of Oriente | *Professor* | 2016 – 2022

- Lectured Calculus, C++ Programming, and Signal & Image Processing.
- Contributed to complex epidemiological modeling initiatives, analyzing statistical data and running simulations using advanced mathematical frameworks.

CERPAMID (Center for Pattern Recognition and Data Mining) | *Software Developer* | 2012 – 2014

- Developed and implemented algorithmic solutions natively in C++, focusing on memory management and execution speed.
- Engineered low-level text processing and parsing logic to execute precise validation and string manipulation, methodologies directly applicable to deep code analysis.

EDUCATION

- **Dallas College:** Mathematics (Expected 2027)
- **CIMAT:** Graduate Coursework in Mathematics / Process Modeling and Optimization (2022 – 2023)
- **University of Oriente:** Bachelor of Mathematics (2016)

TECHNICAL SKILLS

- **AI & Mathematics:** Natural Language Processing (NLP) methodologies, Pattern Recognition, Support Vector Machines (SVM), NumPy, Linear/Tensor Algebra, Statistical Data Analysis.
- **Languages:** Python, C/C++, TypeScript/JavaScript, HTML/CSS, SQL.
- **Infrastructure & Frameworks:** FastAPI, React, Tailwind CSS, Supabase, Google Cloud Run, Git, Docker.