

Isaias Perez

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EDUCATION

University of Colorado Boulder

Bachelor of Science in Computer Science

GPA (Major): 3.78

Expected May 2027

Minors: Applied Mathematics, Business | **Courses:** Data Structures, AI, OOP, Databases, Software Eng, Finance

Affiliations: Society of Hispanic Professional Engineers (SHPE)

EXPERIENCE

AI Engineer Intern

Polylabs

June 2025 – Present

(Remote)

- Engineered intelligent systems to automate educational content delivery, boosting AI tool efficiency by **35%** using LLMs and multimodal architectures.
- Designed and deployed pipelines for automated image-caption generation using OpenAI APIs, Hugging Face models, and n8n workflows.
- Built agent-based task frameworks that reduced manual content publishing time by **40%**.
- Prototyped scalable backend services enabling autonomous scheduling, performance analytics, and user engagement optimization.

Undergraduate Machine Learning Research Assistant

University of Colorado Boulder

March 2025 – Present

Boulder, CO

- Conducting research on LLM interpretability and hallucination reduction under PhD mentor Amit Kiran Rege.
- Designed evaluation tasks to probe model reasoning depth, token attribution, and consistency across prompts.
- Implemented diagnostic tools to visualize token contributions using transformers and attention analysis.
- Utilized Hugging Face and OpenAI libraries for model fine-tuning, inference, and behavior auditing.

Software Engineer Intern

Ryno Industries LLC

April 2023 – August 2023

Erie, CO

- Boosted equipment ordering system scalability by **27%** through modular API development and SQL schema redesign.
- Refactored backend data pipelines and indexing strategies to reduce equipment spec retrieval latency by **12.3%**
- Redesigned internal content delivery interface, improving usability and increasing engagement from the sales team by **18%**.

TECHNICAL SKILLS

Languages: C/C++, Python, JavaScript, SQL, HTML/CSS, TypeScript

Frameworks: React, Node.js, Flask, FastAPI, Express.js, Bootstrap, React Native, Expo

Developer Tools: Git, Docker, Google Colab, Firebase, Supabase, VS Code, Jupyter Notebooks

Libraries: TensorFlow, PyTorch, OpenCV, ONNX, Pandas, NumPy, Scikit-learn, XGBoost, LSTM

APIs: OpenAI, Gemini, Stripe, Canvas LMS

Quant Tools: pybind11, Zarr, LOBSTER Data, Eigen, SQLite

Operating Systems: Windows, Linux, macOS

Other Skills: Fluent in Spanish, Cross-cultural Communication, Team Leadership, Problem Solving

PROJECTS

FlowExec++ | Reinforcement Learning for Trade Execution

C++, PyTorch, RL, Gemini API

- Built a market simulator with Heston stochastic volatility and market impact models in C++.
- Trained PPO and Flow Matching agents for optimal execution; evaluated on LOBSTER replay data.
- Integrated meta-strategy selection via XGBoost and LSTM; added Gemini-powered NLP dashboard.

PulsePlan (AI Scheduler) | Multimodal LLM Agent for Task Automation

React Native, Node.js, OpenAI, Gemini

- Built AI productivity planner using GPT-4o and Gemini for calendar, tasks, and habit tracking.
- Created cross-platform web scraping engine for LMS integration (Canvas, Moodle).
- Deployed Chrome extension with auto-sync and Stripe billing; full-stack authentication pipeline.

EcoVision | Edge-AI for Smart Waste Sorting

Python, YOLOv8, ONNX, FastAPI

- Engineered real-time waste classification system using YOLOv8 and custom labeled dataset.
- Quantized and exported models to ONNX for NPU-accelerated inference on low-power edge devices.