

# Juan Almanza

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## Education

### Minerva University

Expected May 2029

BS in Computational Sciences and Natural Sciences

- Coursework: Formal Analyses, Multimodal Communications, Empirical Analyses, Complex Systems

## Experience

### Software Engineer

Pulpoo

Aventura, FL

Sept 2023 – Aug 2025

- Built lead extraction system using to classify, contact and convert 30K+ potential clients per location from enterprise databases; deployed across 20+ companies including Samsung and General Motors.
- Developed full-stack product including APIs, mobile app, and web dashboard; GM built predictive scheduling on this platform, improving service appointment bookings from 40% to over 90% across 10+ dealerships.

### Research Intern

Stanford University

Stanford, CA

Summer 2023, 2024

- Developed FFT-based instrument source separation system for orchestra recording using TensorFlow; trained on 10,000+ audio samples across 20 instrument classes, achieving 50% accuracy.
- Co-mentored 4 students on ML drug discovery project for EZH2 cancer inhibitors, achieving 9% error in potency prediction; delivered 2 CS workshops to 60 high school students.

## Projects

### Col-Ovo

[colovo.chilloa.org](http://colovo.chilloa.org) ↗

- Trained a mosquito egg detection model (YOLOv8s) trained on 27,256 annotated eggs, achieving 83% mAP; in pilot testing for national deployment in Colombia.
- Developed Aedes, a cloud-based annotation platform for ovitrap images enabling crowdsourced data collection, annotation and model retraining for Col-Ovo using React.

### AgroScan

[scidroid/agroskan](https://scidroid/agroskan) ↗

- Platform for distributing updatable lightweight vision models for agricultural tasks (e.g., cacao crop disease detection) to low-resource smartphones via Javascript Progressive Web Apps.

### Blackboard AI

[blackboard.almanza.cc](http://blackboard.almanza.cc) ↗

- Experimental tool enabling AI to construct complex visual explanations from simple shapes on a real-time blackboard, featuring voice narration and LaTeX rendering. Using Claude and React.

## Volunteering

**Google Developers Group Barranquilla:** Organized and delivered 10+ talks on AI/ML to 1,000+ attendees.

**Virufy:** Built data visualization tools for training data collection of 14,800+ audio samples from 80+ countries.

**ASOFI:** Founded an organization recognized by UN Women creating educational STEM programs in Colombia.

## Honors & Awards

<b>RISE Fellow</b> – Eric Schmidt and Rhodes Trust scholarship (<1% acceptance)	2024
<b>Bronze Medalist</b> – at the International Olympiad in Artificial Intelligence (IOAI)	2024
<b>National Representative</b> – at the International Olympiad in Informatics (IOI)	2023
<b>3x National Champion</b> – at the Colombian Olympiad in Informatics	2021, 2022, 2023

## Skills

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

**ML & Frameworks:** TensorFlow, PyTorch, YOLO, React FastAPI, Express, Tailwind CSS, PostgreSQL, Git