

Oscar Arreola Alvarado

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EDUCATION

Instituto Tecnológico y de Estudios Superiores de Monterrey - ITESM August 2022 - Expected June 2026
Bachelor of Science in Computer Science and Technology (Academic Talent Scholarship) GPA 98.8/100

WORK EXPERIENCE

Uber Technologies San Francisco, California, U.S.
UberSTAR Software Engineering Intern June - September 2024

- Developed a **GenAI** Application **Evaluation** framework for internal tools using **Langchain**, **gRPC**, and Java.
- Implemented robust methodology by analyzing over 7 papers on the field. Bench-marked individual module performance using field-related **datasets**.
- Refactored framework module, optimizing interaction speed with **Hive** by **70%**.
- Implemented CLI apps for module **testing**, benchmarking, **dataset generation**, and visualization results.

ITESM Monterrey, Nuevo León, México
Software Engineer Intern February 2024 - Present

- Crowd-counting project to optimize public space usage by analyzing the use of ITESM's Central Park.
- Implemented person **REID** using **anchor-guided clustering**, with PyTorch, YOLO, and Dockerized environments.
- Developed a video upload dashboard using Next.js, integrated with S3, and deployed via AWS Amplify.

Dataexpress Monterrey, Nuevo León, México
Software Engineer December 2023 – February 2024

- Developed the front & backend of a no-code, Data Pipeline Platform (**ELT**) using Next.js, Node.js and Python.
- Created a destination connector for **Google Cloud Storage**, including validation, **IAM** permission testing, and feature documentation.
- Built source connectors for Facebook Ads & Facebook Pages using the Marketing API.

MAJOR PROJECTS

RoboCup @Home (github.com/RoBorregos/home) October 2023 - Present

- **Lead** of the **RoboCup@Home** team (25 members) and the **Human-Robot Interaction** sub-team (6 members).
- Built a custom **LLM training pipeline** for local, low-latency **task planning** using **Ollama**, **Unsloth**, and a custom **synthetic dataset generator**.
- Containerized the system using **Docker compose**, enabling seamless deployment across multiple **edge devices**.

Tenor (github.com/Apantli/Tenor) February - June 2025

- Built an **AI-powered** full-stack **project management** platform using Next.js, TypeScript, and Firebase.
- Implemented an **AI auto-completion** assistant and **page-based context grounding** to boost performance.
- Integrated CI workflows with **Cypress** and **ESLint**, and automated documentation with **Typedoc** and **Docusaurus**.

VOLUNTEERING

CVA (Virtual Learning Center) – Software Developer ([Produced Course](#)) Summer 2023

- Assisted Mexican immigrants in the U.S. by creating a **website** on the American healthcare system.
- Designed and implemented **60+ responsive pages** of content, and 4 activities using **Bootstrap** and **JavaScript**.
- Reduced overall project size up to **80%** using **Python scripts** to efficiently compress images and eliminate dependencies, benefiting other programmers creating courses for the organization.

SKILLS

Programming Languages: Python, C++ , Java, Javascript, TypeScript, C#, Bash

Libraries and Tools: Git, Docker, Langchain, React, Next.js, Prisma, TRPC, Tailwind, TensorFlow, NextAuth, R, AutoHotKey, Kivy, jQuery, node.js, Vercel, VirtualBox, Ubuntu, Android Studio, SQL, AWS (S3, EC2, Lambda, IAM, Amplify, API gateway), GCP (Mail API, OAuth, Cloud functions), OpenAI API, Whisper, HTML, CSS, Latex

Languages Spoken: English (C1), Spanish (Native), French (Basic)

AWARDS

2nd place in RoboCup @Home National Competition - **May 2025**

Top 25 in Mexico's ICPC finals - **September 2024**

2nd place in RoboCup @Home National Competition - **April 2024**

1st place - 17 International Science Competition (Hosted by ITESM) - **2022**