

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.
Software Engineering Intern - M3 Metrics September 2025 - January 2026

- Implemented a high-cardinality detection mechanism in the Go-based M3 distributed query system using Thrift, enabling automated backoff for expensive queries across company-wide production metrics workloads.
- Designed and built a production cost accounting framework for M3 queries with primary and secondary attribution, increasing query cost coverage from 75% to 93% across company-wide metrics workloads.

ITESM Monterrey, Nuevo León, México
Software Engineering Intern February 2024 - August 2025

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

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

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

- Developed the frontend and backend of a 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.

PROJECTS

RoboCup @Home (github.com/RoBorregos/home2) October 2023 - August 2025

- **Led 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 deployment across multiple **edge devices**.

Tenor (github.com/Apantli/Tenor) February 2025 - 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**. Automated documentation with **Typedoc** and **Docusaurus**.

SKILLS

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

Libraries and Tools: Git, Docker, Langchain, React, Next.js, Prisma, TRPC, Tailwind, NextAuth, node.js, Ubuntu, SQL, AWS (S3, EC2, Lambda, IAM, Amplify, API gateway), GCP (Mail API, OAuth, Cloud functions), OpenAI API, Whisper, HTML, CSS, Latex, gRPC

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

AWARDS

6th place in RoboCup @Home International Competition - **July 2025**

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**