

Oscar Arreola Alvarado

+52 81 1559 0087 - ooa.vercel.app - oscar.arreola.jr@gmail.com - [linkedin.com/in/oscar-arreola04](https://www.linkedin.com/in/oscar-arreola04) - github.com/Oscar-gg

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 98.6/100

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

- **Leading** the RoboCup@Home team (14 members) and the Human-Robot Interaction sub-team (6 members).
- Designed and developed a **speech to text** pipeline (ROS, Python) for an xArm 6 robot to execute voice commands via a Jetson Xavier, using local **STT** (Whisper), **TTS** (piper), **VAD** (Silero VAD), and **KWS** models.
- **Dockerized** the environment, enabling deployment across multiple devices.

Smart Office (github.com/Oscar-gg/Smart-Office) October - December 2023

- Developed an **IOT** project to efficiently manage office spaces, providing usage insights and analytics.
- Built a **full-stack**, typesafe **web app** (Next.js, Prisma, TRPC, Tailwind) as an interface for customers & admins, implementing **RBAC** and **OAuth** using NextAuth.js.
- Established scalable, real-time connections with ESP8266 devices through **WebSockets** using AWS API gateway.

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

Classified to 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

Highest GPA in High School (PrepaTec Valle Alto) - 2019 - 2022