Oscar Arreola Alvarado

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EDUCATION

Instituto Tecnológico y de Estudios Superiores de Monterrey - ITESM   **Aug 2022 - June 2026**
Bachelor of Science in Computer Science and Technology (Academic Talent Scholarship)   *GPA 99/100*

WORK EXPERIENCE

UberSTAR Software Engineering Intern
California, U.S.   *June - September 2024*
- Software engineering intern at the Biztech team (Platform Engineering).
- Implementing the backend of an internal evaluation framework using Python, Michelangelo, **Langchain**, gRPC, and internal tooling.

ITESM On Campus Intern
Nuevo León, México   *February 2024 - Present*
- Crowd counting project aimed to optimize public space by analyzing usage of ITESM's Central Park.
- Implemented Person **REID** using **anchor-guided clustering**, enhancing crowd behaviour analysis.
- Built a video upload dashboard using Next and deployed with AWS Amplify.

Dataexpress – Software Engineer
Nuevo León, México   *December 2023 – February 2024*
- Developed the front & backend of a no-code, Data Pipeline Platform (**ELT**) using Next.js, Node.js and Python.
- Implemented a destination connector for Google Cloud Storage while adding 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 - December 2023*
- Designed and developed a **speech to text** pipeline (ROS, Python) for an xArm 6 robot, to execute voice commands as interpreted through a Jetson Xavier, using locally runned **STT** (Whisper), **VAD** (Silero VAD), and KWS models.
- **Dockerized** the environment, facilitating deployment across multiple devices.
- **Led** the Human-Robot Interaction area, which enhances user experience and interactivity.

Smart Office (github.com/Oscar-gg/Smart-Office)   *October - December 2023*
- **IOT** project to efficiently manage office spaces, while providing usage insights and analytics.
- Implemented a full-stack, typesafe **web app** (Next.js, Prisma, TRPC, Tailwind) as an interface for customers & admins, while adding **RBAC** and **OAuth** using NextAuth.js
- Established scalable, real-time connection with ESP8266 devices though **WebSockets** using AWS API gateway.

COMMUNITY SERVICE

CVA (Virtual Learning Center) – Software developer (Produced Course)   *Summer 2023*
- Helped Mexican immigrants in the U.S. by building 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%** by implementing python scripts to compress images and eliminate dependencies efficiently. Used by **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 - **April 2024**
11th place from México – Meta Hacker Cup 2023, Round 1 - **Oct 2023**
1st place - 17 International Science Competition (Hosted by ITESM) - **2022**
Student with **highest GPA** – High School (PrepaTec Valle Alto) - **2019 - 2022**