

Oscar Arreola Alvarado

Email: oscar.arreola.jr@gmail.com

+52 81 1559 0087

Portfolio: oscar-gg.github.io/

GitHub: github.com/Oscar-gg

Linkedin: linkedin.com/in/oscar-arreola04/

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

PrepaTec Valle Alto, International Baccalaureate (ITESM)

Aug 2019 – May 2022

Highest GPA among all graduating students (Academic Talent Scholarship)

GPA 98/100

WORK EXPERIENCE

Dataexpress – Software Engineer

Dec 2023 - Present

- Developing 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.
- Building source connector for **Facebook Ads**, for integration in pipeline creations.

RoBorregos (Representative Robotics Team at ITESM) – Software Developer

Oct 2022 - Present

- Participated in **national** robotics competitions (Robocup Maze, Robocup@Home), representing ITESM.
- 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) and **VAD** (Silero VAD) ML models.
- Built a **browser extension** to allow students to transform their schedules into .ics format to coordinate team meetings among members, using React, Plasmo, and Tailwind.
- Active member of Web development, Social Impact, Robocup@Home (HRI and Nav), and RCJ Maze mentoring teams.

MAJOR PROJECTS

Smart Office (github.com/Oscar-gg/Smart-Office)

Oct - Dec 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.
- Established scalable, real-time connection with ESP8266 devices through **WebSockets** using AWS API gateway.

BanCoach (Hackmty Hackathon ITESM) (github.com/Oscar-gg/HACKmty-2023)

September 2023

- Designed and developed a **web application** using React, Vite, and Node.js to help people learn about investment funds.
- Integrated OpenAI's **Chat completion API** to provide investment advice given the available funds and the user's context.
- Implemented a **Chatbot** to solve general questions about finance.

Event Manager (github.com/Oscar-gg/EventManager)

July - Aug 2023

- Developed an events management platform using Next.js, Prisma, Tailwind, Formik, and TRPC.
- Implemented **RBAC** and **OAuth** authentication using NextAuth.js; Deployed and used by **RoBorregos**.
- Integrated with **calendar applications** (Outlook, iCal file, etc.) to allow users to add events to their calendars.

RoboCup Maze [Vision and control programmer] (docs.rbrgs.com/RescueMaze/)

Oct 2022 – April 2023

- Developed an **autonomous** maze-solving robot, by implementing a control system (PID) and sensors (IMU, TOF, TCS).
- Integrated the Arduino base with **ROS** (C++, Python) and other modules in an **Ubuntu** system.
- Allowed to recognize visual victims by developing an **OCR** model using **Tensorflow Lite**, for use in a Jetson Nano.

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 over **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.

MAE (Academic mentor of excellence) – Tutor & Web Developer

Feb 2023 - Present

- Providing academic mentoring to college students in mathematics, computer science, and physics courses.
- Actively developing the MAE webpage redesign to enhance user experience and streamline scheduling for students.

SKILLS

PROGRAMMING LANGUAGES

3 years *Java*

2 years *C++, Python, Arduino*

1 year *JavaScript / TypeScript, Bash*

Languages:

Spanish Native

English C1

French Basic

TECHNOLOGIES

Git, HTML, CSS, React, Next.js, Prisma, TRPC, Tailwind, TensorFlow, NextAuth, R, AutoHotKey, Kivy, jQuery, node.js, Vercel, VirtualBox, Ubuntu, Android Studio, SQL, AWS, Google Cloud WebSockets, OpenAI API, Whisper

Awards and Competitions

11th place from México – Meta Hacker Cup 2023, Round 1

Oct 2023

Actively participating in ICPC Mexico's Grand Prix

Oct 2022– Present

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

2022

Student with highest GPA – High School (PrepaTec Valle Alto)

2019 - 2022