

Oscar Arreola Alvarado

Email: oscar.arreola.jr@gmail.com

+52 81 1559 0087

GitHub: github.com/Oscar-gg

Portfolio: rbrgs.com/oscar

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

EDUCATION

Instituto Tecnológico y de Estudios Superiores de Monterrey - ITESM

Expected June 2026

Bachelor of Science in Computer Science and Technology.

GPA 99/100

Academic Talent Scholarship of 80%

PrepaTec Valle Alto – Monterrey, Nuevo León

August 2019 – May 2022

International Baccalaureate Diploma

GPA 98/100

IB Diploma Programme score: 41/45 ; IB Computer Science SL score : 7/7

Honorable Mention of Excellence

MAJOR PROJECTS

RoBorregos – Representative Robotics Team at ITESM

October 2022 - Present

- Participated in **national** and **regional** robotics competitions in representation of ITESM.
- Member of the **web development** team, involved in the development of the **IOT inventory**.
- Member of @Home team as part of **Human Robot Interaction**.
- Helped develop a **browser extension** to transform student's schedules into .ics format to coordinate team meetings among members.

Event Manager [Personal project] (github.com/Oscar-gg/EventManager)

July - August 2023

- Developed a webpage using Next.js, Prisma, Tailwind, and TRPC to create, manage, and communicate **events** efficiently.
- Designed to help **RoBorregos** manage community events. RoBorregos' deploy: events.rbrgs.com/
- Implemented **RBAC** and **OAuth** authentication using NextAuth.js.
- Integrated with **calendar applications** (Outlook, iCal file, etc.) to allow users to add events to their calendars **efficiently**.

Transforma Web Programmer [Social service] ([Migrated Course](#))

July 2023

- Helped Mexican **immigrants** in the U.S. by migrating a **website** on the American healthcare system.
- Formulated interactive and responsive content using **Bootstrap** and **JavaScript**.
- Reduced overall project size up to **~80%** by implementing **python scripts** to compress images and locate unused files efficiently. Used by **other programmers** migrating courses for the organization.

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

October 2022–April 2023

- Developed an **autonomous** robot which navigated through a maze while avoiding obstacles and performing tasks according to the environment.
- Designed and implemented a control system using **C++** and **Arduino**, which included a **PID controller** and a class hierarchy to manage a variety of sensors (IMU, TOF, Color Sensor).
- Integrated the control system 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.

Atemoc [4 person project] (github.com/Oscar-gg/Atemoc)

September 2022

- Designed and developed a **mobile application** using **Kivy**.
- The app compares the user's water usage to established benchmarks and displays **tips** for how to **save water** for each of the main areas of water consumption.

To-Do list mobile app [Personal project] (github.com/Oscar-gg/TaskRegister)

May 2022

- Designed and implemented a **mobile app** in **Java** that allows users to record, visualize, sort, and filter tasks.
- Used **RecyclerView** to allow users to personalize the displaying of tasks, while optimizing resources.
- After finishing the **software development life cycle**, the app was delivered to a **client**.

SKILLS

PROGRAMMING LANGUAGES

3 years *Java*
2 years *C++, Python, Arduino*
6 months *JavaScript / TypeScript, MATLAB*

TECHNOLOGIES

Git, HTML, CSS, React, Next.js, Prisma, TRPC, Tailwind, TensorFlow Lite, NextAuth, R, AutoHotKey, Kivy, jQuery, node.js, Vercel, VirtualBox, Unix/Bash, Android Studio

Languages Spoken:

Spanish Native
English PTEG C1

Awards and Additional Experience

Actively participating in ICPC Mexico's Grand Prix *Oct 2022– Present*
MAE (Academic Mentor) - academic counseling to fellow students *Feb 23– Present*
1st place achieved - 17 International Science Competition (Hosted by ITESM) *2022*
Student with highest GPA – High School (PrepaTec Valle Alto) *2019 - 2022*