

# Ernesto Adrian Alvarez Salazar

Computer Systems Engineer Student

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## EDUCATION

**Tecnológico de Monterrey**, Guadalajara – B.S. Engineer's Degree in Systems Engineering

August 2019 – May 2023 (**Expected**)

GPA: 95/100

**Centro de Bachillerato Tecnológico Industrial y de Servicios #37**,

Sonora – Software technician

August 2016-June 2019

GPA: 98/100

## EXPERIENCE

**Pinnacle Aerospace – SWE Intern**

June 2019 – August 2019

- Development of a local platform that evaluates new developers code and test cases.
- Head designer and developer for the evaluator.
- Database co-designer with SQL.
- Data preparing for back end.

**Sonora Olympiad in Informatics (OSI) – Instructor**

October 2019 – October 2020

- Collaborative topic planner.
- Competitive programming instructor.
- Problem setter for qualification tests.
- Get venues for in person courses.

## RELEVANT PROJECTS

**Servi Hogar – Development**

- A platform that will help to get the user closer with a service provider (solo project).
- The source code is being develop in flutter, using Android Studio as an IDE.
- Implementing Firebase for the database and data analytics of the project.
- Front/back end design and implementation.

**Online Battle Ship – Development**

- To make something with my spare time, a group and I decided to take on the task of transforming a classic board game into an online web game.
- Console application that lets two players interact one at a time (in the same machine).
- Classes structure design and implementation in python.

## PROGRAMMING LANGUAGES, TOOLS & KNOWLEDGE

**Languages:**

C/C++ (4 yr.) - Java (2 yr.) - SQL (1.5 yr.)

Matlab (1 yr.) - Python (1 yr.)

JavaScript (6 m.)

**Tools:**

Git (1 yr)

VSCode, Android Studio, Firebase, Oracle DB, CodeBlocks, NetBeans

## RELEVANT COURSEWORK

- C++ Competitive Programming – OSI (2018)

## EXTRACURRICULAR ACTIVITIES

- Competitive Eating
- Movie enthusiast
- Exercise

## LANGUAGES

- Spanish (Native)
- English (B2, not tested)

## AWARDS

- Bronze Medal- 45° Mexican Olympiad in Informatics, 2018.
- 100% Scholarship “Líderes del Mañana”- Tecnológico de Monterrey, 2019.
- Ranked 66 all time user– OmegaUp, Virtual Judge.
- Coder of the month – OmegaUp, Virtual Judge, September 2017.
- Best GPA (96) of all Engineer and Science School. Semester January-June 2020.

## REFERENCES

\*References upon request

**How were you first introduced to Computer Science? How have you continued to develop your technical skills and seek additional exposure to the field?**

I was in middle school when I was first introduced to informatics, at the moment I didn't went in depth with it, but I was amused by the idea of developing software, the most I made was a simple HTML with my name and a photo, but everything took off the moment I entered high school, I was assigned to the software technician program and was prepared as so, the first semester was pretty much just the basics of Java, but that summer I took a C++ boot camp in my school, this boot camp was focused in competitive programming and ever since I've been involved with this, later on, still in high school, I took Java OOP but with a user interface approach, and web development, both were lackluster for my expectations, so I had to research for my own just so that I would be satisfied with the end result. Most of the others languages or tools I've learn I've done by myself in personal projects just to learn that language.

**What is your strongest programming language? How much experience do you have using the language? Go into detail about how you used this technical language. If talking about a group project, be specific about your role in the final product. (examples can include projects, coursework, competitions, websites, previous internships, etc.)**

The language that I feel I'm the most competent and fluid with is C++, this being that I've used it for the better part of 4 years at this point, even thou I haven't gone in depth with user interface (like I have done in Java) I still fell like C++ it my strongest language, at least for managing data structures and problem solving, witch I've gone competitive and have had good results I was selected to represent my state in the Mexican Olympiad in Informatics back in 2018 and actually won a bronze medal (45<sup>th</sup> place), this made me want to help others learn C++ and have been teaching C++ focused in competitive programming ever since. Apart from this I've been involved in some projects, most of the time I'm attached to the back end and designing the data structures, this includes a past internship (where I also developed an evaluator algorithm) and minor school projects.

**At Google, we believe that a diversity of perspectives, ideas, and culture leads to the creation of better products and services. Tell us about your background and experiences and how they make you unique.**

As of my background even thou I began with a competitive spirit this doesn't mean that I'm selfish with my code, I would even claim otherwise, mainly because of the environment where I got into, we used to talk about some new problems and the next day talk about each others solution and algorithm to make the community better and more competent in most ways. Even when I was pretty much new to programming I focused in teaching and explaining others what to do, or instead what I did to solve a problem. And this is what I feel separates me from most people (that I know) I'm always willing to help others and never afraid to ask for help even to the unknown, even thou I like to solve problems by my own I do know my capabilities and limits and don't shy away from them.

**List the technical courses you will be taking next semester, and pleas note witch programming language(s) will be used, if applicable. If you have not registered for classes yet, please list the courses you plan on taking.**

Implementation of computational methods – C/C++

Device interconnection – Unknown

Software construction and decision making – C#, JavaScript, HTML, CSS

**List any clubs and/or organizations that you participate in.**

"Club de Programación" – High school club that focused in teaching students C++, I started attending in third semester, and by 5<sup>th</sup> I became one half of the club's leaders, wanting to expand the club we designed and made a hackathon for the school students.

"Informatica para todos" – While still being the leader of the programming club in my school a partner and I wanted to expand the concept outside the school, we started to go to some middle schools and gave a 5 week boot camp in the introduction to informatics and programming.

“Olimpiada Sonoresne de Informatica” – I was initially invited to be a coach for the competitors, but quickly started taking part in the selection and documentation of the topics, due to the lack of variety in our problems I became a problem setter and ended up making 2/3 of the problems for the finals.

“Rotaract Tec de Monterrey” – I got enrolled with it last summer, here I’m in many dependencies and have helped to organize a Jeopardy-like contest that had competitors in two different country, and currently trying to scale this to an even broader audience.