

José Eduardo de Valle Lara

Software Engineer

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EDUCATION

Instituto Tecnológico y de Estudios Superiores de Monterrey

Expected June 2025

B.S. in Computer Science and Technology

TECH STACK

Python	C++	Matlab	NodeJS	React
MySQL	R	Swift	Git	Linux

EXPERIENCE

Comité Ecológico Integral del estado de Nuevo León | Data Analyst

Aug 2023 - Present

Analysis and cleaning of data with Python (Pandas, NumPy, Matplotlib) about the air quality of the state of Nuevo León.

- Organized and cleaned a segment of the database to store the information in an orderly manner, taking care of its integrity.
- Developed pipelines to read raw data with an API, manipulate it and make derivations and then save it to a database.
- Adjusted the raw data obtained from sensors to optimize the calculation of pollution models (US EPA mainly).

Dilo en señas | Señaventuras

Aug 2023 - Present

I participate in the development of a mobile application for iOS in collaboration with the organization Dilo en señas that helps people with hearing disabilities to learn Mexican Sign Language with gamification, SwiftUI is the main framework, Core ML is used for artificial intelligence for object detection and RealityKit for augmented reality features.

- I built basic and animated 3D assets in Blender for the augmented reality experience.
- Extended the AR experiences with animations done in Reality Composer, the main menu of the app has islands in AR and the specific view is also generated in AR with unique animations.

Tecnológico de Monterrey | Topological Data Analysis

Dec 2022 - Present

I collaborate on a topology research project that focuses on the evolution of SARS-CoV-2 in the state of Nuevo León.

- Performed extensive data cleaning, manipulation and tuning using Python (Pandas, NumPy, Matplotlib).
- I built graphs from the data with the KeplerMapper library and exported them to html files to visualize them, I transformed the structure of the graphs to a customized one to apply algorithms such as MergeSort, binary search, Dijkstra and BFS to obtain the topological properties of each graph.

Tecnológico de Monterrey | Student system

Feb 2023 - May 2023

I worked on a project that is a clone of the anonymous survey system that students answer to rate the content of a subject and the quality of the teachers.

- I designed the database with MySQL that stores all users by roles, completed surveys and pending surveys.
- Web development of the administrator page to enable and create new surveys, I focused on the backend with NodeJS, React (contexts), Express and more frameworks.

HONORS

HackMTY | 3rd place Softtek challenge

September 2023

We participated in the HackMTY event, a hackathon organized by Tecnológico de Monterrey, our project stood out, obtaining third place in the challenge posed by the company Softtek. We developed [FridaCV](#), an automatic program that reads resumes and orders them according to the relevance indicated by the administrator.

- It orders the resumes according to the importance indicator established by the recruiter. After parsing the file, information is extracted that is usually requested manually from the candidate when filling out their application.
- An alert detection system was developed in a CV when a candidate does not have stability and changes jobs a lot in a short time.
- The frontend was developed with React and Tailwind CSS, the backend was developed with Flask for communication with an SDK and the database was made in sqlite3.