Victor **Olguin Castillo**

☐ (+52) 5583982194 | ✉ volguincas@gmail.com | ○ github.com/mvnueloc | in linkedin.com/in/victorolguinc

Education

National Polytechnic Institute - (ESCOM)   *Mexico City. Mexico*
Bachelor of Science in Artificial Intelligence - GPA(3.30/4.00)   *Expected Graduation date: January 2026*
Relevant Courses: Probability and statistics, Data Structures, Introduction to artificial intelligence, Data Bases.

Projects

Music Recommendation System

(Python, Sklearn, Matplotlib, Numpy)   *March 2024*

- Normalized and analyzed a dataset from the Kaggle platform containing over 2000 metadata entries of the most listened-to songs in 2022.
- Classified the dataset using the k-means algorithm from the sklearn library to determine the optimal number of clusters, and utilized the matplotlib library to visualize the resulting classification.
- Developed an algorithm that captures a user's musical preferences through the values they input into the program. It then uses the k-means algorithm from the sklearn library to classify these preferences with the songs in the dataset to recommend new songs based on the classified group and the songs with the most similar metadata.

Guard-IA

(Python, Yolov5, TensorFlow)   *November 2023*

- Designed a customized data set for training and testing computer vision models, downloading images from various sources like Roboflow, Kaggle, and Google Datasets focused on firearms detection.
- Train a custom object detection model with transfer learning from the Ultralytics Yolov5 AI model that can find firearms within an image or video.
- Implemented the weapon detection model on a web page using TensorFlow in Python. I used Flask to transfer model information to the web interface, allowing users to test the model in real time with their own cameras.

DevInterview

(React, Javascript, Gemini-LLM)   *July 2024*

- Developed a web page specializing in conducting technical interviews for programmers, which includes one phase of technical questions and another of code questions.
- Implemented a function to evaluate candidate responses, providing feedback and points to improve. This project included integration with Google Gemini Large Language Models API, configuring parameters like System, temperature and presencePenalty to optimize evaluation.

Binary classifier

(c++, K-Means, Knn)   *October 2023*

- Developed a binary classifier using the programming of the KMeans algorithm, which I used to analyze the pixels of the images and segment interest objects from the background.
- Implemented the K-Nearest Neighbors (KNN) algorithm to classify new objects using specific features such as the perimeter and area of the segmented objects.
- Designed a data set to train and test a machine learning model, achieving an accuracy rate of 86% according to the Area under the Receiver Operating Characteristics Curve (ROC). This task included data collection, cleaning and preprocessing..

Honors & Awards

2024	**1st place**, Talent Land Hackathon – Coppel Foundation.	*Jalisco, Mexico*
2024	**Semi-Finalist**, HackMexico Hackathon.	*Mexico City, Mexico*
2023	**100th place/500 teams**, Gran Premio de México ICPC 2023.	*Mexico City, Mexico*

Technical Skills

Programming languages: C++/C , Python, JavaScript.

Developer Tools: Git ,Github, mySQL, PostgreSQL, Pandas, Numpy, Matplotlib, Scikit- Learn, Linux, API's.

Concepts: Data structure, Supervised and unsupervised learning algorithms, Informed and uninformed search algorithms, Agile methodologies, Secure code testing.