

ALEJANDRO VILLALOBOS

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WORK EXPERIENCE

Multiburó

Backend and Data Engineer

Guadalajara, Mexico

Jan 2024 - Current

- Refactored a high-maintenance API with Django Ninja, overhauling business logic, redesigning feature extraction and inference services, and improving scalability, accuracy, and overall performance.
- Developed and optimized a dimensional database for data science and business intelligence, enabling efficient data analysis and reporting by structuring data for improved querying and insights.
- Deployed and managed the API infrastructure on GCP using Docker containers, integrated PostgreSQL for data storage, and maintained comprehensive documentation for seamless handovers and scalability.

Centro de Desarrollo Integral Arboledas (CEDI)

Technology Teacher

Guadalajara, Mexico

Mar 2023 - Jun 2024

- Taught Excel from foundational skills to advanced functionalities, focusing on dynamic tables, automated dashboards, and macros to develop students' data analysis and problem-solving capabilities.
- Instructed students in Robotics using LEGO-style kits, fostering creative problem-solving through hands-on design, construction, and block programming to solve engineering challenges.
- Led advanced robotics courses with Arduino, mentoring students to design circuits and program robots using sensors and actuators, applying critical thinking to solve real-world challenges.

OD Security

Computer Vision Research Intern

Leeuwarden, Netherlands

Aug 2022 - Jan 2023

- Researched, developed, and trained a machine learning model using YOLOv5, applying computer vision techniques to identify anomalies and contraband in human x-rays.
- Implemented advanced data augmentation techniques to improve model robustness and accuracy, ensuring more reliable performance across varied datasets.
- Authored and presented a research paper at a Computer Vision & Data Science Symposium, sharing insights on anomaly detection and contributing to the field's ongoing research.

PROJECTS

Quetzal Network Mesh Networks, Arduino Prototyping, Safe and Scalable Communication

Designed and prototyped an award-winning emergency alert system featuring a panic button and app, functioning independently of smartphones, to aid in kidnapping prevention and victim rescue.

Web Portfolio Next.js, Flutter, TypeScript

Created web portfolio to showcase expertise in software development, AI, and computer vision, featuring responsive design, interactive elements, and a clean, modern aesthetic.

Celestial App Dart, Flutter, Firebase

Designed and programmed a mobile app that allowed users to discover and learn about celestial object with information gathered from NASAs official API.

AWS Note App Cognito, App Sync, Dynamo DB, Cloud Front, S3

Note taking webpage that allowed users to store and synchronize their thoughts utilizing a suite of AWS services.

SKILLS

Programming:	Python, C, C++, Java, TypeScript, RISC-V Assembly, SQL
Frameworks:	Django, Next.js, TensorFlow, Scikit-learn, Keras, Flutter
Data Science:	Dataset Management, AI Model Training, Data Preprocessing, Data Augmentation
Project Management:	Agile Methodologies, Scrum, Daily Stand-Ups, Sprint Planning, Backlog Management
Communication:	Technical Presentations, Active Listening, Knowledge Sharing, Documentation
Languages:	Spanish - Native, English - Proficient (C2), French - Basic (A2)

EDUCATION

Instituto Tecnológico de Estudios Superiores Occidente (ITESO)

Bachelor of Computer Systems Engineering

Guadalajara, Mexico

Aug 2019 - Jul 2024

NHL Stenden Hogeschool

Minor in Computer Vision and Data Science

Leeuwarden, Netherlands

Aug 2022 - Jan 2023