

MARCO MONTOYA

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Education

Tecnologico de Monterrey

Aug 2021 – May 2025 (Expected)

Bachelor of Science in Computer Engineering

Hermosillo, Son

- Relevant Coursework: Object-Oriented Programming I, II, Implementation of the Internet of Things, Analysis of Software Requirements, Data Structures and Advanced Algorithms, Integration of Computer Security in Networks and Software Systems, Software Development
- GPA: 97/100

Experience

Oriux

August 2024 – December 2024

Internship for Oriux System Development

Remote

- Development of new features for **Spinnaker ATMS**, creating web interfaces that complement the software system and enhance user experience.
- Using **Vue.js** to optimize existing software processes, creating new components and cleaning up the code base.
- Using **SignalR** to create and manage WebSockets, providing users with real time updates of traffic controllers and databases.

Projects

AI Sorting Process Optimization | *Merlic, Python*

October 2023 - February 2024

- Created several **Machine Vision** models to classify and filter defective parts in assembly plants.
- Using **Python** for data augmentation and segmentation to provide models with quality data.
- Set up and calibration of hardware tools such as cameras, lenses and lights for data acquisition, floor assembly and live data classification.
- The project was carried out as part of a hackathon, providing a valuable solution that will be used in the industry.

Company incident and logs manager | *TypeScript, TailwindCSS, React Native, Expo*

September – December 2023

- Collaborated with a team to digitalize a company's process into a **React Native** application.
- The app allows users to create and review logs depending on their role, and raise incident reports.
- Sent notifications when room temperatures were detected out of range.
- Used **TailwindCSS** to give the application a modern, compact, and intuitive design.

Earthquake detection system | *Arduino, MQTT, IFTTT, MySQL*

December 2022

- Developed a network of **ESP32** nodes capable of detecting earthquakes and storing the data in a database.
- The nodes communicate with each other by using a Pub/Sub communication via **MQTT**.
- The data is stored in a **MySQL** database, which can be visualized on a dashboard in **Grafana**.
- Used **IFTTT** to send a mobile notification within 5 seconds after the earthquake is first detected.

Coronavirus variations database | *Rstudio*

March – April 2022

- Collaborated with a team to develop a **Rstudio** project that reads, orients, aligns and displays tables to compare different genomes deviated from SARS-CoV-2.
- Registration of data from different types of genome derived from Coronavirus.
- Reading and manipulation of 29,000+ character genome sequences.
- Interpretation of data through graphical resources created by an R script.

Certifications

NVIDIA Getting Started with Deep Learning | *Certificate*

February - March 2024

Introduction course of fundamental techniques and tools required to train a deep learning model, and leverage transfer learning between models to achieve efficient results with less data and computation.

Google Cloud Computing Foundations Academy | *Certificates*

January - February 2024

Introduction course that teaches an overview of concepts central to cloud basics, cloud resource management, big data, and machine learning.

Skills

Programming languages: Python, C++, JavaScript, TypeScript, R, Matlab, SQL, HTML/CSS

Frameworks: Vue.js, Nuxt.js, React.js, TailwindCSS, Bootstrap

Developer tools: Linux, Git, GitHub, Jupyter Notebook, VS Code, Docker.