

# MARCO MONTOYA

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## Education

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### 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: 95/100

## Projects

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### 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

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### 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.

### 2022 Complete Python Bootcamp From Zero to Hero in Python

July - August 2022

Learned new ways to use Python for real-world tasks, such as working with PDF Files, sending emails, reading Excel files, scraping websites for information, working with image files, etc.

## Skills

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

**Frameworks:** ReactJs, TailwindCSS, Bootstrap.

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