Mauro Alejandro Jimenez Medina

Electronics Engineer and Data Engineer

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SKILLS

Machine Learning	NumpPy, Pandas, Scikit-Learn, Keras, PyTorch, NLTK, Weka, Google Colab.
Databases	MongoDB, PostgreSQL, MySQL, MariaDB.
Programming and Tools	Python3, C++, C#, VHDL, Javascript (ES6), Node.js, Nuxt.js, Vue.js, HTML5, CSS3, Git, Docker, Google Cloud, AWS, Bitbucket, Agile (Scrum), AdobeXD.
Languages	Spanish (Native) and English (ITEP-2018).

EXPERIENCE PROFESSIONAL

DexFreight - Data Engineer   08/2019 - Present
Barranquilla, Atlántico

• Trip planning algorithm by combining MongoDB geospatial features with constraints functions by processing over thousands of records on average with an overhead of 5s per leg and average response time under 10s.
• Shipment search system by using MongoDB aggregation with the inclusion of filters based on available features with an average response of 600ms.
• Map layers based on kepler.gl layers for shipments visibility by using GeoJson schemas with the inclusion of filters based on available features.
• Optimized data structure in size by 69% by restructuring data schemas.
• Designed and deployed a recommendation model for matching shipments preferences by using the features and user's stated preference with an average response of 600ms.
• Designed and deployed a microservice for the company and users analytics with dynamic filters by using regular expressions formatting.

Uninorte - Teaching Assistant Professor   07/2019 - 07/2020
Barranquilla, Atlántico

• Prepared and instructed classes for digital signal processing using Matlab and Python with interface design applications by using the Qt framework.
• Prepared and instructed classes for digital electronics design with DC-AC prototypes using passive and active electronics components and the Arduino uno microcontroller board.

Psychology PhD Thesis Study - Data Analyst   06/2019 - 08/2019
Barranquilla, Atlántico

• Designed and Analysis of experiments for an instrument that measures the falsehood or credibility of stories in children between 8 and 11 years old, taking into account linguistic descriptors used by them from a neuropsychological point of view by using techniques from natural language processing and machine learning algorithms.

MadnessLab - Backend Developer   06/2019 - 12/2019
Barranquilla, Atlántico

• Designed and processing of schemes for sound files recorded during calls by credit institutions or financial companies.
• Sensitive reports and analytics for users (and operators) for improving the quality of service by using techniques based on natural language processing.

EXPERIENCE ACADEMIC

Autonomous Surface Vessel - Backend Developer   01/2018 - 12/2018
Barranquilla, Atlántico

• Designed and developed a prototype related to Autonomous Surface Boats. The prototype used a GPS receiver for measuring the position of the boat, compass and other sensors and actuators for navigation.
• Additionally, a search algorithm was developed using spherical geometry for the navigation. The results showed an error of 2 meters, leading to an acceptable error due to low-cost hardware limitations.

AISMAP - Frontend Developer   01/2018 - 06/2018
Barranquilla, Atlántico

• Designed and development the UI for a mobile application on the Automatic Identification System (AIS) used by ships and vessel traffic services.
• The time latency of the application was around 5s for transmitting data in real time.
• The AIVDM / AIVDO communication protocol was used to collect and integrate information from publicly available sources and vessels using AIS protocol.

Trucking Tracking - Full-Stack Developer   01/2018 - 06/2018
Barranquilla, Atlántico

• Designed and developed a web application integrated to a device compatible with applications for the internet of things focused on productivity, monitoring and fleet security with the aim of tracking and monitoring trucks.
• Designed a UI for visualizing the route in transit to create a historical and real-time tracking with and average response of 200ms, by using Javascript and HTML5 and CSS3.
• Deployed a website using Amazon Elastic Cloud Computing service (EC2) for the server and the Amazon Relational Database Service (RDS) for storage.

PUBLICATIONS

International Journal on Communications Antenna and Propagation (IRECAP)   06/2019 - 12/2019

Obstacles, Speed and Spreading Factor: Insights in LoRa Mobile Performance.

COURSES & CERTIFICATES

API Academy Certification Program   08/2020 - 09/2020

• Api Designer.

Convolutional Networks for Visual Recognition   06/2018 - 08/2018

• CS231n.

International Test of English Proficiency ITEP   04/2018 - 06/2018

• CEFR Level B2.

EDUCATION

MSC on Electronics Engineering   06/2019 - 12/2020
Universidad del Norte

Identification of expressive descriptors for style extraction in music analysis using linear and non linear models.

BSC on Electronics Engineering   06/2014 - 01/2019
Universidad del Norte

System for the measurement of musical similarity, using expressive markers considering the acoustic intensity and temporal metrics.