

Nicolás Valderrama Barrera

Mechatronics Engineer

PROFILE


Mechatronics engineer with skills in control, automation, programming, and robotics to develop creative and efficient solutions in projects and applications.


I possess leadership capabilities to work in teams, fostering collaboration and the achievement of common goals. Decision-making based on thorough analysis, effectively addressing challenges. Excellent assertive communication and active listening skills, facilitating effective interaction and constructive feedback with the team. Creativity in implementing solutions tailored to different contexts. Adaptability and resilience in challenging environments.

CONTACT

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 <https://nicolas2320.github.io/MyPortfolio.github.io/>

 nicolasvalderramabarrera@gmail.com

EDUCATION

2008 - 2017

High School

Instituto San Juan de Dios

2018 - Today

Mechatronic Engineering

Nueva Granada Military University

SKILLS

Data Science & TI

- TensorFlow, Pytorch, Keras, Sk-Learn, etc.
- R, Python, C++, JavaScript, React, etc.
- PowerBi & Tableau.
- SQL & NoSQL.
- GIT & Github.

Robotic

- SolidWorks & AutoCAD.
- LabView.
- Computer Vision.
- CoppeliaSim & ROS.

Control & Automation

- SCADA & OPC.
- PLC - Tia Portal.
- Embedded systems / microcontrollers.
- MATLAB & Simulink.

PROJECTS

03/2022 - 05/2022

Machine Learning-based Heart Attack Predisposition Classifier.

- Through the 'Heart Attack Analysis & Prediction Dataset' and the stages of data exploration, data cleaning, data visualization, and pattern analysis, I developed a classifier using machine learning techniques (Decision Tree, Random Forest, KNN, and Support Vector Machine) to determine patients' predisposition to heart attacks.
- The Random Forest classifier performed the best, with an accuracy of 85.24%.

06/2022 - 11/2022

Development of an Anthropomorphic Robot with Computer Vision

- I was part of a team that modeled in CAD and built an anthropomorphic robot with inverse and forward kinematics for control and precision of movement.
- Through computer vision, the robot was capable of identifying the object to pick up, and by using neural networks, it determined which objects to store and which not to.

01/2023 - 05/2023

Design of an Automated Factory for Fusilli Pasta Production

- I collaborated with a team in the conception and design of an automated factory dedicated to the production and packaging of Fusilli pasta. We used Tia Portal software to create the control environment and developed the operational logic of the actuators using the GRAFCET model.
- Additionally, we created the environment and conducted a 3D simulation of the factory's operation using Unity.

CERTIFICATES

- [Deep Neural Networks with PyTorch](#)
- [Google Data Analytics Professional Certificate \(8 Courses\)](#)
- [Machine Learning with Python](#)
- [Building Deep Learning Models with TensorFlow](#)
- [Introduction to Deep Learning & Neural Networks with Keras](#)

LANGUAGES

English  75 %

Professional Work Skill.

Spanish  100 %

Native or Bilingual Competency.

03/2023 - 04/2023

E-Commerce Website

- I developed an e-commerce platform that simulated the sale of electronic devices. The main objective of the project was to collect user information and store it in a Firebase database host to visualize patterns.
- Data processing was implemented using SQL to extract relevant information from the database, and subsequently, tools like PowerBI and Tableau were used to visualize and analyze customer trends.

WORK EXPERIENCE

05/2023 - 09/2023

Professor Hacker's Lost Treasure

North Myrtle Beach, US

Organizer and Operator

Coordination and organization of daily operations in a customer service environment. Working closely with a team, I have been responsible for ensuring an efficient flow of the company's activities, actively participating as a cashier and attractions instructor, prioritizing the safety and satisfaction of our customers, both internal and external.

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