DAVID GOMEZ TORRES

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EDUCATION

2020 – 2025   **UNIVERSIDAD AUTONOMA DE QUERETARO**   Queretaro, Mexico

B.S in Engineering Physics |Major: Computational Physics | 9.3 / 10 |

- Designed parts in SolidWorks for subsequent structural or thermal finite element analysis in Ansys complementing with failure theory foundations
- Generated dynamical systems models by solving their equations of motion both theoretically and numerically, using Python, for analyzing their behavior under different initial conditions, materials properties and external loads
- Developed strong troubleshooting and root cause analysis skills to tackle complex technical challenges while managing time and balancing academic demands with personal commitments

2023   **BEDU, SANTANDER OPEN ACADEMY SCHOLARSHIP**   Remote

Data Scientist career path

- **Awards:** Best final project, out of 20 teams. Led the team to introduce the hyperspectral imaging analysis project to field experts. Collaborated in a multi-disciplinary group with members from different regions of the country
- Created Python scripts to automate data collection, cleaning, processing and transformation
- Performed database manipulation with MongoDB or PostgreSQL and statistics tasks using R to generate valuable insights and answer questions based on data
- Generated interactive PowerBI dashboards to monitor key metrics and track performance

2024   **IBM, COURSERA ADVANCED SPECIALIZATION**   Remote

Advanced Data Science (Big Data)

- Leveraged Apache Spark parallel computing capabilities to process voluminous datasets
- Implemented deep learning frameworks and applied it to real-life examples from IoT and signal processing

EXPERIENCE

2023 - 2024   **RENEWABLE ENERGY** (CONAHCYT project)   Queretaro, Mexico

Provided technical assistance for mechanical engineer's team

- Automated the data extraction, from three-blade wind turbine, to process large volumes of sensor data, identify patterns, anomalies, and trends
- Applied Fourier Transform for understanding the underlying causes of vibrations and designing mitigation strategies
- Collaborated in a multi-disciplinary team and developed Excel macros to generate an interface for non-technical team members and then prepared results to present them to the principal of the postgraduate department

2024   **AIRCRAFT MAINTAINANCE FORECASTING** (IBM capstone project)   Remote

- Proposed model to calculate the engines' Remaining Useful Life (RUL) based on sensor readings and operational parameters implementing an LSTM (Long Short-Term Memory) network
- Developed test scenarios to identify the root cause and alert maintenance personnel of detecting early signs of vibration-related issues

2023   ***PRICING PREDICTION FOR DAIRY PRODUCTS*** (Personal project)

- Created web scrapping system for dairy price data to predicted lactose and whey prices through the implementation of an LSTM (Long Short-Term Memory) network

Summer 2023   ***CIMAT Monterrey*** (Centro de Investigación en Matemáticas at PIIT)   Apodaca, México

- Participated in workshops related to applied data science focus on vehicle detection using YOLOv8

2022   **DENOISING INSAR DATA** (NASA SpaceApps Hackathon)   Colon, Mexico

- Reviewed real data from InSAR satellite and applied machine learning methods to remove tropospheric signals. This approach, based on physics foundations and programming, was presented and judged by international experts, including GE engineers.

ADDITIONAL DATA

- **CODECI UAQ** (student community): Helped students at risk of failing calculus, linear algebra or electromagnetism
- **Languages:** Spanish – Native | English – Fluent | German – Grundkenntnisse A2| Japanese - Beginner