JORGE CARRASCO ISLAS

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EDUCATION

Benemérita Universidad Autónoma de Puebla, Puebla. **Aug 2018 – Jun 2023**

Bachelor's degree in applied mathematics

SKILLS AND TECHNOLOGIES

- ***Skills:*** Supervised Learning, Unsupervised learning, Deep Learning, Artificial neural networks, Statistics, Data cleaning, Data transformation, Mathematical modelling
- ***Technologies:*** Python, MySQL, Sci-kit learn, Tensorflow, Keras, Pandas, Matplotlib, Seaborn, Anaconda, Jupyterlab, Streamlit, Plotly, Excel, Power Query, Power Pivot
- ***Soft skills:*** Presentation skills (presentation at COMIA 2022), Teamwork
- ***Languages:*** English (professional), Spanish (native)

EXPERIENCE

TRAINING AND PROJECT DEVELOPMENT — May 2024 – Present

Development of Interactive dashboard of the educational landscape in the US: 2020 vs 2021

- Developed an **interactive dashboard** of the **educational landscape** in the US (**2020 vs 2021**) that provides **key insights** such as the **population percentage change** by educational level and the **population proportion** by educational level, aggregated by **state** and **year**, using **python**, **streamlit** and **plotly**. This dashboard could be used to **analyze the effects** of **2021 educational campaigns** on the **population proportion** by **educational level** and **geographic location**, and on the **percentage change** in **educational levels by state**.

Development of Interactive financial report of an E-commerce company

- Developed an **interactive financial report** that provides **key insights** into the **financial performance** of an **E-commerce company**, the **most profitable product categories** and the **geographic locations** with the **best financial performance**, in the years 2018 and 2019. I extracted, transformed and loaded the data (**ETL**) from multiple files using **Power Query**, created the **data model** with **Power Pivot** and implemented the interactive report using **Excel**. This report could be used to find the most profitable **product categories** and **geographic locations** and to detect **cost deficiencies** associated with **product categories** and **order shipping** to certain geographic locations.

Course: SQL Beginner to Advanced For Data Professionals – Codebasics.io

Course: Excel: Mother of Business Intelligence – Codebasics.io

DEEP AXIOM — Apr 2023 – Aug 2023

Data Scientist – Puebla, Puebla, Mexico

- For a project in the **livestock sector**, I developed and implemented **computer vision models** to **detect irregularities** in the **behavior of personnel** at access and control points of the facilities. I developed these models using the **YOLOv5** architecture, **python** and the ultralytics package. These models **increased the effectiveness** of the client's security system.
- Designed and developed a **monitoring system** for the livestock process to **maximize income** (sales per kilogram) by **reducing losses due to irregularities** in the breeding, reproduction, transportation, feeding, medical history and administrative processes. The solution I implemented with **python**, **streamlit** and **plotly** provided **key insights** into the **metrics**, **performance** and **irregularities** of each part of the livestock process.

CENTRO ONCOLÓGICO INTEGRAL – HOSPITAL ÁNGELES **Jan 2023 – Apr 2023**

Data Science Intern – Puebla, Puebla, Mexico

- Designed and developed a **computer vision model** to automate **3D reconstruction** of **vital organs** from **CT scans**. I implemented the model based on the **U-Net** architecture using **python**, **tensorflow** and **keras**, obtaining DSC and IoU **similarity scores greater than 90%**. The development is being used by the Hospital and marketed in the private healthcare sector.
- Developed multiple **computer vision models** for **early assisted detection** of cancer from **CT scans**. I processed the images and data with **python**, **torchvision** and scikit-image and implemented the models with **python**, **tensorflow**, **keras** and ultralytics.
- Worked in **close communication** with **oncologists** and **software engineers** to develop models that met **medical requirements** and were suitable for deployment by the software team.

FACULTAD DE CIENCIAS FÍSICO MATEMÁTICAS – BUAP **Jan 2022 – Dec 2022**

- Designed a **population dynamics model** between an insect **pest species**, the use of **biological control** (predatory species) and the application of **chemical control** in **almond orchards** to propose **pest management strategies** when there is **resistance to chemical control**. I developed the model based on the **reported biological behaviors** of the pest species and biological control under the effects of chemical control. Additionally, I **implemented** and **adjusted the model** to **experimental data** using **python**, **scipy** and **numpy**.

RESEARCH PAPER IN JOURNAL RESEARCH IN COMPUTING SCIENCE

- Study of **crime distribution** in Mexico City between 2019 – 2021 using the **OPTICS** clustering algorithm to automatically **detect areas** with **high crime incidence**. I developed the research project using **python**, **sci-kit learn**, **scipy**, **geopandas**, **pandas** and **matplotlib**.
- Participated in the **XIV Mexican Congress of Artificial Intelligence** – COMIA (May 2022)
- Publication of **research paper** in the journal **Research in Computing Science** (August 2022)

CERTIFICATIONS AND TRAINING

- Course: SQL Beginner to Advanced For Data Professionals – Codebasics.io (August 2024)
- Course: Excel: Mother of Business Intelligence – Codebasics.io (June 2024)
- Course: Fundamentos de la Gestión de Proyectos (April 2023)
- Program: Oracle Next Education F2 T3 (February 2023)
- IELTS **English certification: C1** (April 2018)