

# Cesar ANASCO

Portfolio

kaggle.com

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## SKILLS

**Programming Languages:** Python, R, SQL, Javascript, GraphQL.  
**Programming Frameworks:** TensorFlow, Keras, PyTorch, Pandas, Sci-kit learn.  
**Technologies:** Deep Learning, Computer Vision, Git, Atlassian Products, Power BI.  
**Languages:** **English** - C1, **Spanish** - native, **French** - A2.

## PROJECTS

**Cryo-electron Tomography Object Identification** (Kaggle Competition) Implemented 3D U-Net and YOLOv5 models for multi-class 3D segmentation and 2D object detection of protein complexes from cryo-electron tomography data. Used synthetic data for pre-training and fine-tuned models using Tversky Loss and F-beta metric ( $\beta = 4$ ). YOLO11 achieved 0.625 Kaggle score, outperforming baseline and 3D models.

**Product Re-purchase Prediction:** (Kaggle Competition) Designed a personalized recommendation system to predict repeat purchases using customer transaction data. Engineered features from purchase behavior (frequency, recency, quantity), created product embeddings with BERT, and improved prediction accuracy using FNN and CASER models with optimized negative sampling strategies. Achieved a Hit@10 score of 0.356.

## WORK EXPERIENCE

- 02.2022 – Present **HERZUM NORTH AMERICA** **TECHNICAL CONSULTANT**
- Data migration support between on-premises apps and the cloud.
  - Collaborated directly with the General Manager to design mobile applications tailored for clients.
  - **Cloud Architecture for Large Language Models**
    - Implemented fine tuning techniques on various pre-trained LLM.
    - Applied prompt engineering process for the desired objectives.
    - Established a framework for optimizing the process of the domain adaptation techniques for generative artificial intelligence models.
  - **GPT Chatbot**
    - Used domain adaptation techniques to enhance model performance across diverse datasets.
    - Adapted a Convolutional Neural Networks (CNN) model for prediction and assignment of priorities depending on the user input.
- Skills developed:** Javascript / Python / React / Atlassian / LLMs / MLOps
- 06.2021 – 12.2021 **HALLIBURTON, Ecuador** **LANDMARK SOFTWARE AND SERVICES INTERN**
- Developed an application for managing stored procedures in databases to generate a consistent data structure, to use inside one unique internal Halliburton application.
  - Performed several data migration processes involving data transformation.
  - Learned to successfully execute analysis and predictions processes based on data collected from the behavior of oil well production.
- Skills developed:** SQL / C#
- 10.2019 – 03.2020 **PRODUBANCO, Ecuador** **INFORMATION SECURITY INTERN**
- Created Permits Management Manual for internal and external applications used in the company, which was used across the company departments to educate employees about information security practices.
  - Worked as support in projects involving information security awareness inside company departments.
  - Collected, organized, and analyzed application access logs to identify fraudulent entries.
- Skills developed:** SQL / Excel

## EDUCATION

- 10.2022 - 06.2025 **Master in Machine Learning and Data Mining, France** **Université Jean Monnet**  
One ERASMUS semester at University of Freiburg, Germany.
- 10.2015 - 03.2021 **Engineer in IT Systems and Computer Science, Ecuador** **National Polytechnic School**  
Faculty of Systems Engineering

## PUBLICATIONS

- Publication link **Using Data Mining Techniques for the Detection of SQL Injection Attacks on Database Systems**  
Anasco, C., Morocho, K., & Hallo, M. (2021). Revista Politecnica, Faculty of Systems Engineering, National Polytechnic School, Quito, Ecuador.