Jorge Antonio López Crotte

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Career Summary

Jorge has a solid career and has more than 12 years of experience working for consulting firms, Banks and at INFONAVIT (that is the most important mortgage credit financial institution in Mexico), where he has developed as part of strategic management, data analysis and operations areas. Among the most important activities he developed in these companies are the use of machine learning, data mining, business intelligence, applied economics, credit risk and other more areas. Furthermore, he has implemented various strategies within the collection operation, technology project management, as well as management of operating platforms. In the same way, he has been part of data governance and information security groups. Likewise, he has been a leader in various areas managing multidisciplinary personnel, always seeking to obtain the greatest value from each of his collaborators. Jorge is qualified and prepared to face more opportunities that allow him to facilitate decision making.

Summary of Qualifications

Proficient In:

- SAS Enterprise Guide
- SAS Miner
- SQL Server
- PostgreSQL
- AWS Platform
- Google Cloud Platform
- Anaconda
- Python
- Linux, Unix & Bash
- Hadoop
- Pyspark
- MongoDB & Pig
- Stata
- Oracle

- Power BI
- Big Data
- Data mining
- Machine Learning & Deep Learning Algorithms
- Natural Language Processing (NLP)
- Recommendation Systems
- Scikit Learn
- Tensorflow
- Pytorch
- Ensemble Learning Methods
- Flask & Dash
- Fraud detection

- Time series
- Github
- Matplotlib, Plotly & Seaborn
- Scrum Methodology
- Analyze data sources
- Effective communication
- Strategic planning
- Emotional Intelligence
- Analysis capacity
- Teamwork
- Leadership
- Commitment
- Self-management
- Problem Solving Mindset

Languages

- Spanish (native speaker)
- English (Intermediate)

Career History

Globant, Mexico City   Aug. 2021 – Present
Data Scientist Sr.

Assessment Athena Saude, Client in Brazil City
Glober
- I analyzed the information of the operators of an insurer that the Patria group acquired, which included the analysis of their specialties and medical procedures, as well as the analysis of the billing made to the doctors using 6 months of policyholder behavior. The main objective was to carry out an evaluation of its internal procedures and try to discover in which part of its phases there was a greater probability of fraud and thus make a proposal to improve its payment processes.

- I used SQL Server to carry out the ETL's of all their tables, create new variables to generate various analyses of behavior on the insured and thus detect atypical behavior of patients, as well as accumulation of payments in physicians (detection of possible fraud).
- Additionally, I used Python to build differents machine learning models, such as Clustering with the RFM methodology (Recicency, Frequency and Monetary), in the same way I construct a SOM (Self Organizing Map) in conjunction with an Artificial Neural Network (ANN) to detect atypical behaviors (candidates for frauds). Likewise, I applied the cosine similarity technique to look for similarities between patients and the specialties and procedures patients undergo.
- Finally, I generated some reports making ODBC connections between SQL, Python and Power BI, in order to show the findings.

Tech Partner Smart CV Project, Client in Mexico City
Glober
- I collaborated to build of machine learning models through Natural Language Processing for the analysis and recognition of text on the resumes of applicants for Globant vacancies
- I used a Machine Learning (ML) algorithm called Non-Negative Matrix Factorization to label the data before training the model
- In this project I built a deep learning model, this is, I did an Artificial Neural Network (ANN) with Keras and Tensorflow
- I constructed a little software modules for data cleaning and to predict new observations
- For construct the features engineering, I proposed and used the cosine similarity, which made it reached an accuracy of 93% for validation data
- I participated in all pipeline process, since data gathering until model implementation and thus generate predictions for new observations
- Besides, I developed others algorithms for this project, such as Recurrent Neural Network (RNN), Gated Recurrent Unit (GRU), Convolutional Neural Network (CNN) and a Hybrid Neural Network with RNN & CNN, in order to know the performance of each of these models and with that I had benchmarks to contrast my first model

Compartamos Banco, Client in Mexico City
Glober
- Investigate the best solution in Google Cloud Platform to deploy two Credit Score Models
- Used Python, PosgreSQL and differents Google Cloud Tools (Google Storage, Google Cloud Functions, etc) to implement the solution in the Google Cloud
- Lead the Data Scientists team to define the scope of the activities and propose alternatives on the tools to be used
- Meet with the scrum team and the client to plan the activities during the sprint's

INFONAVIT, Mexico City   Apr. 2020 – Nov. 2020
Collection Operations Manager
- Manage and ensure the execution of all collection processes, in order to guarantee the delivery of information in a timely manner to the businesses
- Improve the process of assigning accounts to administrative collection providers, thereby mitigating several operational errors
- Inclusion of new strategies in the assignment of accounts to administrative collection providers to attend to the requirements of the Assignment and Reassignment Group
- Propose various strategies for administrative collection, for its subsequent implementation

INFONAVIT, Mexico City   Feb. 2018 – Mar. 2020
Analysis and Studies Manager
- Coordinate and establish the analysis of strategies, regulation schemes of collection agencies and the projections of the behavior of the portfolio
- Generate new econometric and machine learning models to make the collection of accounts more efficient,

through collection channels
- Improve the account segmentation process and thus help to reduce the past due portfolio
- Manage the proper functioning of all the rankings of suppliers of the collection segments

INFONAVIT, Mexico City   Ago. 2015 – Feb. 2018
Consultant Senior to Analysis and Studies
- Design models using economic and statistical methods to improve the monitoring of the operation carried out in the different delegations
- Analyze, evaluate various programs and studies carried out by the Institute through various statistical methods
- Program various Ranking models, with which the Institute's suppliers are measured
- Perform various cost-benefit analysis of various credit products
- Provide support and maintenance to the Segmentation of credit portfolio accounts, by improving the Clustering, Decision Trees and Logistic Regression Models used to built the Segmentation Model
- Used AB testing to identify the best strategies and/or campaigns to reduce the past due portfolio
- Use times series like ARIMA to construct forecasting models

Santander Bank, Mexico City   Feb. 2015 – Aug. 2015
Deputy Director of Financial Risks
- Program the code in SAS to the execution of returns from managed portfolios
- Develop new market metrics (tracking error and VaR)
- Propose various analysis for the inclusion of new financial product

Banorte Bank, Mexico City   Mar. 2014 – Jan. 2015
Risk PyME Manager
- Detect opportunity areas within the PyME credit portfolio
- Use Data Mining models to detect behavior patterns of clients who have a loan and are in default, both for amortizable and revolving loans
- Generate various analyzes to reduce the Past Due Portfolio Index
- Carry out follow-ups to control Risk indicators

Citi Bank, Mexico City   Sep. 2010 – Feb. 2014
Payroll and Payroll Credit Product Manager
- Analyze and detect opportunity areas within the payroll segment and payroll credit portfolio
- Use statistical models to improve credit granting processes
- Generate information at the management level for decision making
- Generate and control the P&L of the payroll segment and payroll credit, for the measurements of goals for the year
- Manage and control massive information to provide results of analysis of the profitability of the client within the segment
- Perform the analysis for the implementation of collection processes for payroll credits

Nielsen Services, Mexico City   Jul. 2009 – Feb. 2010
Statistical Consultant
- Run simulations to obtain the market share of a brand that represented a very important income for the company
- Provide relevant information on collaborators so that they can use their information as a parameter within the market studies of different brands.
- Generate various analysis for decision making

Udemy Courses
- Deep Learning A to Z: Neural Networks in Python
- Natural Language Processing with Python
- Machine Learning Deep Learning model deployment
- Tensorflow 2.0: Complete Guide to the New Tensorflow

Main subjects studied in the Master of Applied Data Science
- Relational and Non-Relational Databases
- Large Volume Management
- Cloud Infrastructure (AWS educate)
- Data Products
- Machine Learning I and Machine Learning II
- Data Science Applications I and Data Science Applications II
- Marketing with Data (Segmentation Models / Recommendation Systems / AB Testing)
- Fintech (Fraud Detection / Times Series)

Certifications by CertiProf (https://certiprof.com/)
- Big Data
- Blockchain
- Scrum Product Owner
- Scrum Master

Education

IEXE University, Mexico City　　　　　　　　　　　　　Dec. 2020 – Apr. 2022
Master of Applied Data Science

ANAHUAC University, Mexico State　　　　　　　　　　Aug. 2015 – Jun. 2018
Master of Analytical Intelligence

ANAHUAC University, Mexico State　　　　　　　　　　Aug. 2015 – Dec. 2016
Postgrade of Data Mining Specialty

IIMAS, UNAM University, Mexico City　　　　　　　　　Aug. 2009 – Jun. 2010
Postgrade of Applied Statistics Specialty

Science Faculty, UNAM University, Mexico City　　　　Aug. 2004 – Jun. 2008
Bachelor of Mathematics