DANAE MARTÍNEZ

Data Scientist

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EDUCATION

M.Sc. in Statistics
Université de Montréal

🗓 2019

Bachelor's degree in Mathematics
National Autonomous University of Mexico, UNAM

🗓 2014

WORK EXPERIENCE

Data Scientist
National Bank of Canada

🗓 Sep. 2020 - Present   ⚲ Montreal, Canada

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Data Scientist
Freelance

🗓 Apr. 2020 - Present   ⚲ Montreal, Canada

- Monte Carlo simulations for cybersecurity risk estimation.
- Deployment of web applications with Docker.

Data Science Consultant
Raymond Chabot Grant Thornton

🗓 Oct. 2019 - Sep. 2020   ⚲ Montreal, Canada

- Customer segmentation: Identification of customer patterns based on socio-demographic variables through the application of unsupervised classification algorithms.
- Time series analysis for market price forecasting.
- Application of computer vision techniques to extract information from images, such as cheques, invoices, etc.

Data Scientist Intern
Hydro-Québec

🗓 Apr. 2019 - Oct. 2019   ⚲ Montreal, Canada

- Analysis and manipulation of massive data sets.
- Application of machine learning techniques to forecast wind energy production.
- Data visualization.
- Disclosure of results to a non-specialized audience.

Quantitative Analyst
Citibank

🗓 Apr. 2015 - Aug. 2016   ⚲ Mexico city

- Delivery of financial flow tracking reports.
- Development of analytical strategies for the collection of accounts.
- Churn prediction and drivers with logistic regression and decision tree models.

Quantitative Analyst Intern
Faculty of Medicine, UNAM

🗓 Feb. 2014 - July 2014   ⚲ Mexico city

- Application of generalized linear models to predict school drop-out.
- Identification of risk factors leading to school drop-out.
- Production of reports and presentations for the disclosure of results.

PROGRAMMING SKILLS

- **Python** - Scikit-Learn, PyTorch, OpenCV, Tesseract, spaCy, NumPy, pandas.
- R - shiny, r-markdown, ggplot, dplyr, tidyr
- SQL,
- Git and Shell
- SAS,
- C++,
- *SPSS*,
- LaTeX and Markdown.

COURSES AND WORKSHOPS

Machine Learning Winter School
Université Laval

🗓 March 2020   ⚲ Québec city

- Machine learning, regression and linear models, supervised learning, model evaluation and selection, deep learning with Python.

Thematic Workshop in Finance and Insurance
Institute for data valorization, IVADO

🗓 May 2018   ⚲ Montreal

- Machine learning, supervised learning, neural networks, NLP in finance and reinforcement learning with Python.

TEACHING EXPERIENCE

Teaching assistant
Université de Montréal

📅 2017 – 2019   📍 Montréal, Canada

- Course teaching: differential calculus, integral calculus, introduction to statistics, statistics for social sciences and survival models.
- Preparation and presentation of exercises during workshop sessions.
- Exam monitoring.
- Participation in the grading of exams and homework.
- Participation in individual student counseling sessions.

Facilitator of thematic workshops
Applied Mathematics and Actuary Training, AMAT

📅 2016   📍 Mexico city

- Workshop "Analysis and applications of time series with R "
- Preparation and presentation of contents (presentations, course notes and sample codes).
- Correction of exercises and final projects.

Auxiliary teacher
Faculty of Science, UNAM

📅 2014 - 2016   📍 Mexico city

- Courses: statistical inference, time series analysis and risk theory.
- Preparation and presentation of exercises during practical sessions.
- Exam monitoring.
- Participation in students' evaluations.

Private tutoring

📅 2012-2019

- Support for college and university students in mathematics and statistics.

SKILLS

- Trilingual. English (TOEFL certification), French (DELF certification), Spanish.
- Communication and writing skills.
- Effective teamwork, autonomy, resourcefulness.
- Adaptability.
- Analytical thinking and Intellectual curiosity.
- Rapid learning.
- Effective problem solving.
- Time management

AWARDS AND SCHOLARSHIPS

- Excellence scholarship from the Institute of Mathematical Sciences, ISM.
- Supplementary Tuition Exemption Scholarship for International Students, AMEXCID.
- Academic Excellence Scholarship for International Mobility, *Fundación Televisa*.
- Excellence in Academic Achievement Scholarship, *Fundación UNAM*.

RESEARCH CONTRIBUTIONS

Cox regression with latent partitions derived from the Potts model. Master's thesis.

- Development of a nonparametric Bayesian regression model from random partitions in a survival analysis context.
- Application of MCMC methods to perform model estimation and inference.
- Realization of stochastic simulations for model comparison.

***Cox Regression with Potts-driven latent clusters*. Conference.**

- Lecture presented at the 23rd International Congress on Computational Statistics. Iasi, Romania.

***Logistic Regression Model for the Academic Performance of First-Year Medical Students in the Biomedical Area.* Article.**

- Article published in the journal *Scientific Research Publishing*.
- Development of a mathematical model to predict and identify risk factors for dropping out in the first year of the undergraduate medical program.