IRVING GÓMEZ MÉNDEZ

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Summary

I am a mathematician that merges the experience in applied statistics and data science with a solid theoretical background in statistics (Regression, Inference, Multivariate Analysis, etc.) and machine learning (Random Forests, Neural Networks, SVM, Recommender Systems, etc.) who enjoys passing from theory to implementation of digital products.

Computing Skills

Programming Languages: Python, TensorFlow, Julia, R
Query Languages: SQL
Other Languages: LaTeX, HTML, CSS, Shiny

Professional Experience

Centro de Investigación en Matemáticas

PhD Candidate in Probability and Statistics
August 2016 - Now

- Creation and implementation of a new algorithm based on random forests to handle missing values for machine learning.
- Application of machine learning algorithms based on neural networks to handle missing values for recommender systems.
- Implementation of algorithms to actively querying missing information using neural networks (in collaboration with Inria Lille-Nord Europe).
- Development of new methodologies based on non-exhaustive classification for detection of illegal traffic of species in America (in collaboration with Cinvestav-Irapuato).
- Research on algorithms to handle complex missing mechanisms, presented at the international workshop on deep learning and data science.
- Teaching assistant in undergraduate and graduate subjects.

MSc in Probability and Statistics
August 2014 - July 2016

- Design and development of a graphical user interface for inspection data in reliability.
- Implementation of methodologies for control quality with heavily censored data.
- Statistical consulting for the automotive industry, improving their management of warranties.
- Reliability analysis for the food industry, increasing preference of consumers.
- Teaching assistant in undergraduate and graduate subjects.

PESiSa

External Advisor
January 2014 - July 2014

- External advisor responding directly to the engineer direction.
- Improvement of control quality systems.
- Implementation of 5S processes.
- Design of lean manufacturing projects.

Academic Qualifications

PhD Candidate in Probability and Statistics
Centro de Investigación en Matemáticas (CIMAT), Guanajuato, Mexico ..... 2016 - Now
Thesis: *Random Forests with Missing Data*, under the direction of Dr. Emilien Joly

Research stay
Institut National de Recherche en Informatique et en Automatique (Inria), Lille, France 2020
Actively Querying Missing Information Using Neural Networks, on collaboration with Dr. Jill-Jênn Vie

Courses: Scientific Computing for Probability and Statistics, Statistics for Complex Data, Data Science, Pattern Recognition, Asymptotic Theory for Probability and Statistics, Genomics

MSc in Probability and Statistics
Centro de Investigación en Matemáticas (CIMAT), Guanajuato, Mexico ..... 2014 - 2016
Thesis: *Gráficos de Control Tipo EWMA para Datos de Inspección en Confiabilidad (EWMA Control Charts for Inspection Data in Reliability)*, under the direction of Dr. Enrique R. Villa Diharce

Courses: Mathematical Statistics, Statistical Inference, Stochastic Models, Statistical Models, Reliability, Non-parametric Inference, Multivariate Analysis, Statistics for Industry and Natural Sciences

Bachelor's degree
Instituto Politécnico Nacional (IPN), Mexico City, Mexico ..... 2009 - 2014
Mathematical Engineer
Graduate by completion of master's degree credits

Exchange Student
Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil 2012
Scholarship holder by the Instituto Politécnico Nacional (IPN) to study Operations Research and Statistics

David Sprott Award, 2015

Annual prize granted by Centro de Investigación en Matemáticas (CIMAT) to the best master's exam in the area of statistics.

Certifications

03/2016
Toyota Production System. Grupo Scopre, Leon
09/2013 - 11/2013
Data Sets with SQL. Instituto Politécnico Nacional (IPN), Mexico City
08/2013 - 09/2013
Statistical Analysis with SPSS. Instituto Politécnico Nacional (IPN), Mexico City

Conferences Attended

07/2018
XXVIII Annual Conference of the International Environmetrics Society, Guanajuato
09/2017
I School of Data Science, Cuernavaca
09/2015
XXX National Forum on Statistics, Acapulco
03/2014
XII School of Probability and Statistics, Guanajuato

Conferences Given

03/2020
Inria Sequel Seminar, Lille
Some ideas for random forests with missing values
01/2020
TRIPODS workshop CIMAT-University of Arizona, Guanajuato
Some ideas for random forests algorithms with missing values
05/2019
Probability and Statistics Seminar CIMAT, Guanajuato
Regression with missing data using random forests

Languages

Spanish	Native
Portuguese	Fluent
English	Fluent
French	Basic
Russian	Basic