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 development of tech products.

A portfolio of past and current projects can be found at https://irvinggomez.netlify.app/#projects

Computing Skills

Programming Languages: Python, TensorFlow, Julia, R
Data Visualization: Plotly, Tableau, Shiny, ggplot2
Data Analysis: SPSS, Google Analytics
Other Languages: LaTeX, HTML, CSS, SQL

Research Interests

Computer Statistics
Nonparametric Statistics
Inference with Missing Data
Data Science and Machine Learning

Professional Experience

Centro de Investigación en Matemáticas

PhD in Probability and Statistics
August 2016 - Now

- Teaching assistant in undergraduate and graduate subjects.
  Statistical Inference 2016 - 2019
  Statistical Models 2017 - 2019
- Research and implementation of algorithms to handle complex missing mechanisms using random forests.
  Presented in the I Workshop on Deep Learning and Data Science.
- Implementation of algorithms to actively querying missing information for recommender systems 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.

MSc in Probability and Statistics
August 2014 - July 2016

- Teaching assistant in undergraduate and graduate subjects.
  Statistical Inference 2015
- Monitor of undergraduate students.
  XII Workshop on the Solution of Calculus Problems
- Design and development of a graphical user interface for inspection data in reliability.
- Implementation of methodologies for control quality with heavily censored data.
  Presented in the Workshop of Statistics, Data Mining and Environmental Sciences.
  Presented in the I Symposium of Inference and Statistical Modeling.
- Statistical consulting for the automotive industry, improving its warranty management.
- Reliability analysis for the food industry, increasing preference of consumers.

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 in Probability and Statistics

Centro de Investigación en Matemáticas (CIMAT), Guanajuato, Mexico .....2016 - 2020

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

2019

Google Analytics. Google Academy.

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