Contact

www.linkedin.com/in/jose-luis-preciado-arreola-6902b87 (LinkedIn)

Top Skills

Python
Optimization
Machine Learning

Languages

Spanish (Native or Bilingual)
English (Native or Bilingual)

Certifications

TensorFlow Developer

Publications

Insights from machine learning for evaluating production function estimators on manufacturing survey data

Estimating stochastic production frontiers: A one-stage multivariate semiparametric Bayesian concave regression method

A Birth-Death Markov Chain Monte Carlo Method to Estimate the Number of States in a State-Contingent Production Frontier Model

Jose Luis Preciado Arreola

Senior Data Scientist at Tala
Ciudad Obregón

Summary

10+ years experience with advanced statistical learning and a Ph.D in Industrial and Systems Engineering. Passionate about solving Data science problems to create economic value.

Experience

Tala
1 year 3 months

Senior Data Scientist
March 2022 - Present (6 months)
Remote - Mexico

Data Scientist
June 2021 - March 2022 (10 months)
Remote-Mexico

Tecnológico de Monterrey
Assistant Professor
April 2019 - July 2021 (2 years 4 months)
Monterrey Area, Mexico

• Led a team of 2-3 graduate students on data science industry/research project related to predictive detection of defects in the steel industry using machine learning algorithms. Developed the main modeling approaches and led interaction with industry partner. Final products were a Python package and a Power BI dashboard.
• Led an industry/research project in the field of restaurant customer satisfaction analysis using state-of-the-art data science approaches implemented in a Python package.
• Taught two graduate courses on Data Science and Statistical Inference.
• Taught undergraduate courses on Production Management, Models for Decision Making and Data Science for Decision Making.

The Home Depot

3 years

Senior Data Scientist
August 2018 - April 2019 (9 months)
Austin, Texas Area

• Contributed to fully functional prototype of interactive tool to apply bulk pricing optimization using Dash by plotly. Served as link between science team and internal users of the tool. Statistical methodology employed included Mixed Integer Programming, Random Forest Regression and Lowess smoothing.
• Served in the hiring committee in charge of recruiting new members of Data Science team.
• Served as liaison with student team from Carnegie Mellon University to develop sales attach metric for our bulk pricing tool.

Data Scientist
May 2016 - July 2018 (2 years 3 months)
Austin, Texas Area

• Applied machine learning algorithms to improve outlier and assortment bias detection on the enterprise-wide store clustering tool.
• Conducted training at Home Depot's store support center to explain features of new outlier detection tools.
• Developed a Random Forest regression demand-forecasting model for Home Depot's online business. Leveraged optimization efforts from rest of team to incorporate the model in a revenue/profit maximization framework.
• Designed pricing-relevant statistical validation framework for Random Forest demand model.
• Developed a statistical methodology to Optimize bulk pricing quantity tiers and discount for Home Depot's brick-and-mortar business.
• Tools used were Python (pyspark, pandas, numpy and sklearn), Hadoop, R (MASS, GLMs, tree, among others) and SQL.

Texas A&M University
4 years 10 months

Ph.D Student in Industrial and Systems Enginering
August 2011 - May 2016 (4 years 10 months)
College Station, Texas

• Research focused in Bayesian econometric methods, adaptive nonparametric regression and shape-constrained regression.
• Designed 3 statistical methods (parametric, semiparametric and nonparametric) to analyze productivity and efficiency across firms within an industry.

• Developed pioneering work in the use of cross-validation for production function estimation in survey data.
• Programmed simulation and optimization-based shape-constrained regression methods to estimate production functions in Matlab.
• Mentored and collaborated with 2 junior graduate students on publications that used some of these methods.
• Led a performance metrics and analytics project with National Oilwell Varco, obtaining a project extension.

Graduate Teaching Assistant
September 2011 - May 2012 (9 months)

• Taught lab sections jointly with fellow graduate assistant, graded homework and exams, designed and graded case studies.
• Courses assisted were graduate-level Engineering Economy and undergraduate-level Facility Location and Material Handling.

National Oilwell Varco
Graduate Student Project Leader (Graduate Research Assistant)
May 2012 - December 2015 (3 years 8 months)
College Station, Texas

• Managed a team of 2-4 graduate Texas A&M students to develop metrics dashboards and analytical tools.
• Designed and led Matlab development of regression-based predictive/ proactive analytical tools for KPI.
• Led development and programming for more than 10 VBA-based purpose-specific interactive dashboards.
• Sustained interaction and feedback loops with Analytics, Engineering and Continuous improvement managers from 5 different facilities for tool development.
• Collaborated with the Global Manufacturing Strategy group to define a common KPI category framework across facilities from the Rig Systems and Aftermarket division.
• Presented project progress and achievements at semiannual report out meetings with senior management.

Cal y Mayor y Asociados
Modeling Specialist
July 2009 - June 2011 (2 years)

• Developed transportation engineering models for tollway feasibility studies, mostly in the EMME3 software.

- Improved data processing methods via VBA interfaces to reduce 60% of input data pre-processing time.
- Developed spreadsheet-based discrete event simulation models for tollbooth capacity studies.

Education

Texas A&M University

Ph.D., Industrial and Systems Engineering · (2011 - 2016)

Stanford University

M.S., Management Science and Engineering (Decision and Risk Analysis track) · (2008 - 2009)

Instituto Tecnológico y de Estudios Superiores de Monterrey

B.S., Industrial and Systems Engineering · (2003 - 2007)

Purdue University

Study Abroad Program · (2006 - 2006)

Activity

08/26/2022, Viewed by Andrés Morales López