Saul Toscano-Palmerin

CONTACT INFORMATION

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http://toscanosaul.github.io/saul/

RESEARCH INTERESTS

Simulation optimization, Bayesian optimization, optimal learning, machine learning, sequential decision-making and transportation systems.

EDUCATION

Cornell University, USA

Ph.D. in Operations Research and Information Engineering,
GPA: 4.191/4.3, expected May 2019

- Advised by Peter I. Frazier
- Minors: Computer Science and Statistics

CIMAT-Center for Mathematical Research, Mexico

B.A. in Mathematics, GPA: 9.71/10, June 2013

- Highest GPA of the class 2008-2013
- Excellence Fellowship awarded by the Mexican government

INDUSTRY EXPERIENCE

Uber, USA

Data Scientist Intern, June 2016 - June 2017

- Route-based pricing for uberX and uberPOOL
- Skills: Optimization and statistical methods, machine learning algorithms, design of experiments, production code

PAPERS

S. Toscano-Palmerin and P.I. Frazier, "Effort Allocation and Statistical Inference for 1-dimensional Multistart Stochastic Gradient Descent", 2018. Submitted.

S. Toscano-Palmerin and P.I. Frazier, "Bayesian Optimization with Expensive Integrands", 2018. Submitted.

S. Toscano-Palmerin and P.I. Frazier, "Stratified Bayesian Optimization", *Proceedings of the 12th International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing (MCQMC)*, 2017. https://arxiv.org/abs/1602.02338

S. Toscano-Palmerin and P.I. Frazier, "Asymptotic Validity of the Bayes-Inspired Indifference Zone Procedure: the Non-Normal Known Variance Case", *Winter Simulation Conference*, 2015. http://arxiv.org/pdf/1508.07720.pdf

WORK IN PROGRESS

"Continuous-Fidelity Bayesian Optimization with Trace Observations" with J. Wu, P.I. Frazier and A. G. Wilson.

AWARDS

2014–2015 Mexican Government Fellowship
2013–2014 McMullen Fellowship

TEACHING

Cornell University, Instructor

- Big Data Technologies (ORIE 5270), Spring 2018, Masters level. Topics: Statistical and software tools for data mining of massive datasets, graphical display, and machine learning.
- Computational Methods in Operations Research (ORIE 6125), Spring 2018, PhD level. Topics: Computational tools to perform research in operations research and related fields.

Software

Bayesian Global Optimization (BGO) Package
Python-based Bayesian global optimization software.
https://github.com/toscanosaul/stratified_bayesian_optimization

New York City's Citi Bike System Simulation
Python-based queuing simulation based on New York City's Citi Bike system.
https://github.com/toscanosaul/BGO/tree/master/CitiBike

Graduate Coursework

- ❑ Machine Learning
- ❑ Statistical Principles
- ❑ Bayesian Statistics
- ❑ Simulation
- ❑ Applied Stochastic Processes
- ❑ Combinatorial Optimization
- ❑ Mathematical Programming I and II
- ❑ Parallel Computing

Relevant Skills

Development: Python, Java, R, C, C++, Matlab, Hadoop/Hive/Spark/PySpark/MLlib, SQL
Languages: English, Spanish.