Dr. Felipe Maldonado

Boltzmannstrasse 3, 85748 Munich
Technical University of Munich, Germany
✆ (+49) 89 289 17530
✉ felipe.maldonado@in.tum.de
🖱 felipemaldonado.github.io

Education

2015–2019 **PhD**, *Australian National University*, ANU College of Engineering & Computer Science, Research School of Computer Science/ CSIRO-Data61.

2011–2012 **Mathematical Engineering (Masters Equivalent)**, *University of Chile*, Department of Mathematical Engineering, Thesis: Study of an adaptive dynamic for repeated games and its applications to a traffic game. Graduated with highest distinction.

2005–2010 **Bachelor in Engineering Sciences, major in Mathematics**, *University of Chile*, Department of Mathematical Engineering.

Publications

Working paper **Pricing schemes for non-convex markets with flexible demand.**, *Expected submission: October 2020.*

Working paper **Electricity Market Design: Current Challenges and a Greenfield Design Considering Flexible Demand.**, *Submitted* .

Working paper **Pricing Strategies Under a Consumer Choice Model with Network Effects.**, *Submitted* .

2018 **Popularity Signals in Trial-Offer Markets with Social Influence and Position Bias**, *European Journal of Operational Research*, Volume 266 (2) 775-793, 2018.

2016 **Asymptotic Optimality of Myopic Optimization in Trial-Offer Markets with Social Influence**, *25th International Joint Conference on Artificial Intelligence (IJCAI-16)*, New York 9th-15th July, 2016.

2016 **Aligning Popularity and Quality in Online Cultural Markets**, *10th International AAAI Conference on Web and Social Media (ICWSM-16)*, Cologne 17th-20th May, 2016.

2012 **Study of an Adaptive Dynamic for Repeated Games and its Applications to a Traffic Game**, *Mathematical Engineering Thesis*, (In Spanish).

Professional Experience

OCT 2019 - present **Postdoctoral Researcher**, *Decision Sciences and Systems. Technical University of Munich (TUM)*.
Market Design.

AUG-DEC, 2018 **Research Assistant**, *QuantEcon*, and Research School of Economics, ANU.
Flexible, Experiential Learning in Economics: Implementing Interactive Lecture Notes with an Integrated Editorial Solution. Development and improvement of Sphinx extension.

NOV 2017 **Data Analyst**, *CSIRO Data61*, Decision Sciences Group.
Queensland Urban Utilities project: Schedule for new billing system

APR 2015 - SEP 2019 **NICTA PhD Student**, *CSIRO Data61*, Decision Sciences Group.

AUG 2013 - AUG 2015 **Consultant**, *Optilog Consultores*, Operations Research.
Research and Development on several subjects such as scheduling and routing.

MAR 2013 - JAN 2015	**Sessional Lecturer**, *University of Concepción, Chile*, Teaching. Linear and Non Linear Programming, Linear Algebra, Quantitative Methods for Economists, Ordinary Differential Equations, Modelling and Simulation in Operation Research.
OCT 2012- MAR 2013	**Project Engineer**, *Betazeta*, Research and Development. Project: Social Networks Analysis, and an incentive compatible mechanism for consumer generated content.
SUMMER 2011	**Internship** , *CMM Network Economics and Risk Analysis Laboratory*. Computation of Economic Equilibrium in Incomplete Markets (with cluster implementation).

Teaching Assistant: U. of Chile, ANU, and TUM

2019-2020	**Auction Theory and Market Design**, *TUM*.
2017-2018	**Ordinary Differential Equations, Programming for Data Scientists** , *ANU*.
2010-2011	**Probability, Algorithmic Game Theory**, *U. of Chile*.

Supervision: TUM

2019-2020	**Towards the Future of European Day-Ahead Market Design: Bidding Formats, Clearing and Pricing.**, *Master Thesis in Finance and Information Management*, Johannes Körr.
2019-2020	**Evaluation of Pricing Schemes for Electricity Markets with Non-convexities and Demand Flexibility**, *Master Thesis in Finance and Information Management*, Andrea Saumweber.
2020	**Lead Times Prediction and Demand Forecasting for Inventory Recommendation Systems**, *Master Thesis in Mathematics for Data Science*, Sagarika Kathuria.
2020	**Measuring the Effects of Social Influence on the Willingness-to-Buy** , *Bachelor Thesis in Information Systems*, Zixi Chen.

Collaborations and Short-term Visits

APR 2019	**Visitor Scholar**, *Computer Science and Engineering, UNSW*, Sydney, Australia. Work with Haris Aziz.
OCT-DEC 2015 & APR 2016	**Visitor Scholar**, *Industrial & Operations Engineering Department, University of Michigan*, Ann Arbor, USA., Work with Pascal Van Hentenryck.
JUL, SEP 2015 & MAR 2016	**Visitor Scholar**, *Melbourne Business School*, Melbourne, Australia. Work with Gerardo Berbeglia.

Awards/Scholarship

2015-2018	ANU NICTA PhD Scholarship (Australian Postgraduate Award, APA)
2015-2018	ANU NICTA PhD Supplementary Scholarship
2015-2019	ANU HDR Fee Remission Merit Scholarship
2006-2010	Moises Mellado Foundation Scholarship
2001-2010	Presidente de la República Scholarship

Courses, Conferences, Seminars, Talks

JUN, 23-26, 2019	**EURO 2019**, *30th European Conference on Operational Research*, Dublin, Ireland. Compete or collaborate: Pricing strategies under a consumer choice model with network effects.

APR, 29-30, 2019	**SECW 2019**, *Sydney EconCS Workshop 2019*, Sydney, Australia. Organised by Dr. Haris Aziz.
DEC, 2018	**ASOR 2018** , *26th National Conference for the Australian Society of Operations Research and Defence Operations Research Symposium 2018* , Melbourne, Australia.
OCT, 2018	**Guest Lecture**, *Research School of Economics, ANU*, Computational Economics. Markov Chains: Theory and Computational Implementation.
JUN, 2017	**AMSI Optimise 2017: AMSI Optimise**, *Monash University, Melbourne, Australia.*
APR, 2017	**Seminar: Mathematical Engineering Department**, *University of Concepción*, A consumer choice model under the effects of social influence and position biases.
JAN, 2016	**Second Workshop on Algorithms and Dynamics for Games and Optimization ADGO**, *University of Santiago, Santiago, Chile.*
DEC, 2012	**School and Workshop on Dynamics Games and its Applications Dynamics Games**, *Universidad Técnica Federico Santa María, Valparaiso, Chile.*
MAR, 2012	**XII Latin American Congress of Probability and Mathematical Statistics CLAPEM**, *Hotel O'higgins, Vina del Mar, Chile.*
FEB, 5-10, 2012	**XVI Escuela Latinoamericana de Verano en Investigación Operativa, ELAVIO 2012.**, *Vale dos Vinhedos, Bento Gonzalves, Río Grande do Sul* , *Brasil*, Presentation of work in progress (Mathematical Engineering thesis)).
AUG, 22-31, 2011	**Course: "Theory And Numerical Resolution Of Complementary Problems"**, *Prof. Dr. Alberto Seeger - University of Avignon, France.* Organizer: Center for Mathematical Modeling (CMM).
MAR, 14-20, 2011	**Course: "Equilibrium Princing in Incomplete Financial Markets in Discrete and Continuous Time"**, *Prof. Dr. Ulrich Horst - Humboldt University Berlin Department of Mathematics.* Organizer: Center for Mathematical Modeling (CMM).
MAR, 8-11, 2011	**14th Symposium for Systems Analysis in Forest Resources, SSAFR 2011.**, *Marbella Resort, Maitencillo, Chile.* Organiser: Institute of Engineering Complex Systems (ISCI).

Computer Skills

Programmming	Python (Keras, Tensorflow, Scikit-learn), Java, Matlab, Gurobi.
Typography	LaTeX, MS Office, Keynote.
Others	Git, Sphinx, Hugo.

Relevant Coursework: U. of Chile and ANU

Mixed Integer Programming, Convex Optimisation, Calculus of Variations, Optimal Control, and Algorithmic Game Theory. Advanced Topics in Statistical Machine Learning.

Languages

Spanish	Native
English	Proficient
German	Basic

Service

2018-now	**Reviewer**, *AAMAS, EJOR.*