

# Dr. Felipe Maldonado

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## 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

- In preparation **Electricity Market Design: Current Challenges and a Greenfield Design Considering Flexible Demand.**, *Expected submission: July 2020*.
- In preparation **Compete or collaborate: 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

- October 2019 - now **Postdoctoral Researcher**, *Decision Sciences and Systems. Technical University of Munich (TUM)*.  
Market Design.
- August-December, 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.
- November 2017 **Data Analyst**, *CSIRO Data61*, Decision Sciences Group.  
Queensland Urban Utilities project: Schedule for new billing system
- April 2015 - September 2019 **NICTA PhD Student**, *CSIRO Data61*, Decision Sciences Group.
- August 2013 - August 2015 **Consultant**, *Optilog Consultores*, Operations Research.  
Research and Development on several subjects such as scheduling and routing.

- March 2013 - **Sessional Lecturer**, *University of Concepción, Chile*, Teaching.  
 Jan 2015 Linear and Non Linear Programming, Linear Algebra, Quantitative Methods for Economists, Ordinary Differential Equations, Modelling and Simulation in Operation Research.  
 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 **Pricing Schemes for Non-Convex Markets**, *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 .  
 2020 **Measuring the Effects of Social Influence on the Willingness-to-Buy** , *Bachelor Thesis in Information Systems*, Zixi Chen.

## Collaborations and Short-term Visits

- April 2019 **Visitor Scholar**, *Computer Science and Engineering, UNSW, Sydney, Australia*.  
 Work with Haris Aziz.  
 Oct-Dec 2015 **Visitor Scholar**, *Industrial & Operations Engineering Department, University of Michigan, Ann Arbor, USA.*, Work with Pascal Van Hentenryck.  
 & Apr 2016  
 Jul, Sep 2015 **Visitor Scholar**, *Melbourne Business School, Melbourne, Australia*.  
 & March 2016 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

- June, 23-26, **EURO 2019**, *30th European Conference on Operational Research*, Dublin, Ireland.  
 2019 Compete or collaborate: Pricing strategies under a consumer choice model with network effects.  
 April, 29-30, **SECW 2019**, *Sydney EconCS Workshop 2019*, Sydney, Australia.  
 2019 Organised by Dr. Haris Aziz.  
 December, **ASOR 2018** , *26th National Conference for the Australian Society of Operations Research and Defence Operations Research Symposium 2018* , Melbourne, Australia.  
 2018  
 October, 2018 **Guest Lecture**, *Research School of Economics, ANU*, Computational Economics.  
 Markov Chains: Theory and Computational Implementation.

- June, 2017 **AMSI Optimise 2017: AMSI Optimise**, *Monash University, Melbourne, Australia.*
- April, 2017 **Seminar: Mathematical Engineering Department**, *University of Concepción*, A consumer choice model under the effects of social influence and position biases.
- January, 2016 **Second Workshop on Algorithms and Dynamics for Games and Optimization ADGO**, *University of Santiago, Santiago, Chile.*
- December, 2012 **School and Workshop on Dynamics Games and its Applications Dynamics Games**, *Universidad Técnica Federico Santa María, Valparaiso, Chile.*
- March, 2012 **XII Latin American Congress of Probability and Mathematical Statistics CLAPEM**, *Hotel O'higgins, Vina del Mar, Chile.*
- February, 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)).
- August, 2011 **Course: "Theory And Numerical Resolution Of Complementary Problems"**, *Prof. Dr. Alberto Seeger - University of Avignon, France.*  
Organizer: Center for Mathematical Modeling (CMM).
- March, 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 L<sup>A</sup>T<sub>E</sub>X, 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.*