

Dr. Felipe Maldonado

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Education

- 2020 **PhD**, *Australian National University*, ANU College of Engineering & Computer Science, Research School of Computer Science/ CSIRO-Data61.
Thesis: Modelling consumer behaviour in the presence of network effects
- 2012 **Mathematical Engineering (MSc 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
- 2010 **Bachelor in Engineering Sciences, major in Mathematics**, *University of Chile*, Department of Mathematical Engineering.

Publications (most significant ones, marked with [*])

- [*] Working paper **Out-of-Equilibrium Pricing on Electricity Spot Markets: How to Price Electricity in the Presence of Flexible Demand.**, *Expected submission: April 2021*, Target: European Journal of Operational Research.
In collaboration with M. Bichler and J. Knoerr.
- Working paper **Pricing Strategies Under a Consumer Choice Model with Network Effects.**, *Expected submission: March 2021*, Target: OR Spectrum.
In collaboration with G. Berbeglia and P. Van Hentenryck.
- Working paper **Electricity Market Design in the Energy Transition: A Guide to the Literature.**, *Under revision*, Schmalenbach Journal of Business Research.
In collaboration with M. Bichler, U. Buhl, P. Schott, S. Waldher and M Weibelzahl.
- [*] 2018 **Popularity Signals in Trial-Offer Markets with Social Influence and Position Bias**, *European Journal of Operational Research*, Volume 266 (2) 775-793, 2018.
In collaboration with F. Berbeglia, G. Berbeglia and P. Van Hentenryck.
- [*] 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.
In collaboration with A. Abeliuk, G. Berbeglia and P. Van Hentenryck.
- 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.
In collaboration with A. Abeliuk, F. Berbeglia, G. Berbeglia and P. Van Hentenryck.
- 2012 **Study of an Adaptive Dynamic for Repeated Games and its Applications to a Traffic Game**, *Mathematical Engineering Thesis*, (In Spanish).
Under supervision of R. Cominetti.

Professional Experience

- OCT 2019 - present **Postdoctoral Researcher**, *Chair of Decision Sciences and Systems. Technical University of Munich (TUM)*.
Market Design: allocation and pricing problems for the day-ahead electricity market in Germany.

- AUG-DEC, **Research Assistant**, *QuantEcon*, and Research School of Economics, ANU.
 2018 Flexible, Experiential Learning in Economics: Implementing Interactive Lecture Notes with an Integrated Editorial Solution. Development and improvement of Sphinx extension: Jupinx.
- NOV 2017 **Data Analyst**, *CSIRO Data61*, Decision Sciences Group.
 Queensland Urban Utilities project: Schedule for new billing system
- APR 2015 - **NICTA PhD Student**, *CSIRO Data61*, Decision Sciences Group.
 SEP 2019 Research related to my PhD studies, plus collaborations on applied projects.
- AUG 2013 - **Consultant**, *Optilog Consultores*, Operational Research.
 AUG 2015 Research and Development on several subjects such as scheduling and routing.
- MAR 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.
- OCT 2012- **Project Engineer**, *Betazeta*, Research and Development.
 MAR 2013 Project: Social Networks Analysis, and an incentive compatible mechanism for consumer generated content.
- SUMMER **Internship** , *CMM Network Economics and Risk Analysis Laboratory*.
 2011 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

- 2021 **Reinforcement Learning Techniques Applied to Supply Chain Management**, *MSc Thesis in Information Systems*, Jiazheng Tian.
- 2020-2021 **Price Forecasting and Lead Recommendation in An Energy Exchange Market**, *MSc Thesis in Management*, Justus Wolf.
- 2020-2021 **Performance-Based Compensations in a Principal-Agent Problem**, *BSc Thesis in Information Systems*, Jakob Hildebrand.
- 2020-2021 **Improvements in Forecasting Demand, Funnel Conversions and Credit Risk by CRM and Process Data**, *MSc Thesis in Management*, Paul Schönherr.
- 2020 **Lead Times Prediction and Demand Forecasting for Inventory Recommendation System**, *MSc Thesis in Mathematics for Data Science*, Sagarika Kathuria.
- 2020 **Measuring the Effects of Social Influence on the Willingness-to-Buy** , *BSc Thesis in Information Systems*, Zixi Chen.
- 2019-2020 **Towards the Future of European Day-Ahead Market Design: Bidding Formats, Clearing and Pricing.**, *MSc Thesis in Finance and Information Management*, Johannes Knörr.
- 2019-2020 **Evaluation of Pricing Schemes for Electricity Markets with Non-convexities and Demand Flexibility**, *MSc Thesis in Finance and Information Management*, Andrea Saumweber.

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/Scholarships/Grants

- 2019 ANU Travel Grant for Conference Attendance. Approx. £2.5k
- 2018 ANU HDR Scholarship. Approx. £5k
- 2015-2018 ANU NICTA PhD Scholarship (Australian Postgraduate Award). Approx. £44k
- 2015-2018 ANU NICTA PhD Supplementary Scholarship. Approx. £16k
- 2015-2019 ANU HDR Fee Remission Merit Scholarship
- 2015,2016 NICTA Travel Grant for visiting University of Michigan. Approx. £10k
- 2012 ISCI Travel Grant for Conference Attendance. Approx. £600
- 2006-2010 Moises Mellado Foundation Scholarship
- 2001-2010 Presidente de la República Scholarship

Courses, Conferences, Seminars, Talks

- FEB, 2021 **Retail Mavericks Podcast**, *Retail Mavericks is HIVERY's official podcast channel*, Find it in SoundCloud, Apple Podcasts, Spotify, and Google Podcasts.
 Invited talk: Discrete choice models and their applications to retail optimisation.
- OCT, 02, 2020 **SynErgie Expert Workshop**, *SynErgie Expert Workshop on Electricity Spot Market Design*, Online event.
 Pricing in electricity markets - an overview.
- 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, Ríó Grande do Sul, Brasil*, Presentation of work in progress (Mathematical Engineering thesis).

Computer Skills

Programming Python (Optimisation & Data Science libraries), Java, Matlab, Gurobi.

Typography \LaTeX , MS Office, Keynote.

Others Git, Sphinx, Hugo.

Relevant Coursework: U. of Chile and ANU

Mixed Integer Programming, Convex Optimisation, Operational Research, Markov Theory, Optimal Control, and Algorithmic Game Theory. Statistical Machine Learning.

Languages

Spanish Native

English Professional Proficiency

German Elementary

Service

2018-now **Reviewer**, *European Journal of Operational Research*, *Information Systems Research*, *Mathematics*, *ACM Conference on Economics and Computation (EC'21)*.

References

Prof. Martin Bichler, *Chair of Decision Sciences & Systems, Technical University of Munich*, bichler[at]in.tum.de.

Relationship: current employer

Prof. Pascal Van Hentenryck, *A. Russell Chandler III Chair, H. Milton Steward School of Industrial and Systems Engineering at the Georgia Institute of Technology*, pascal.vanhentenryck[at]isye.gatech.edu.

Relationship: supervisor of PhD thesis

Prof. Roberto Cominetti, *Faculty of Engineering and Sciences, University Adolfo Ibanez*, roberto.cominetti[at]uai.cl.

Relationship: supervisor of master thesis

Dr. Gerardo Berbeglia, *Melbourne Business School, affiliated to the University of Melbourne.*, g.berbeglia[at]mbs.edu.

Relationship: advisor PhD thesis