

Charles Thraves

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Current Position	Department of Industrial Engineering, University of Chile Assistant Professor	2017 - Present
Education	Massachusetts Institute of Technology Ph.D. in Operations Research	2012 - 2017
	University of Chile Master in Operations Management	2010 - 2011
	University of Chile Bachelor of Industrial Engineer	2005 - 2011
PhD Thesis	New Applications in Revenue Management Adviser: Georgia Perakis	2017
Master Thesis	Pricing Strategies with Strategic Consumers Adviser: José Rafael Correa	2011
Publications	An Accurate, Fast, and Scalable Ecological Inference Algorithm for the RxC case joint work with Ubilla, P., and Hermosilla, D. <i>Statistics and Computing</i>, 2026, Springer Health care utilization and cost implications of Chile's 2024 nirsevimab strategy for RSV prevention: a counterfactual analysis Joint work with: Sauré D., Zgheib A., Torres J.P., Goic M., Thraves C., Pacheco J., Burgos J., Del Solar F., Neira I., O'Ryan M., and Basso L.J. <i>The Lancet Regional Health - Americas</i>, 2026 Nirsevimab in High-Risk Infants in a Respiratory Syncytial Virus Prevention Strategy Joint work with: Sauré, D., Torres, J.P., Goic, M., Pacheco, J., Burgos, J., Zgheib, A., Del Solar, F., Neira, I., O'Ryan, M., Basso, L. <i>JAMA</i>, 2026 Effectiveness and impact of nirsevimab in Chile during the first season of a national immunisation strategy against RSV (NIRSE-CL): a retrospective observational study Joint work with: Torres, J.P., Sauré, D., Goic, M., Pacheco, J., Trigo, N., Del Solar, F., Neira, I., Dáz, G., O'Ryan, M., Basso, L. <i>The Lancet Journal of Infectious Disease</i>, 2025, ELSEVIER Cost-savings and health impact of strategies for prevention of Respiratory Syncytial Virus with nirsevimab in Chile based on the integrated analysis of 2019-2023 national databases: A retrospective study Joint work with: Sauré, D., O'Ryan, M., Torres, J.P., Trigo, N., Dáz, G., Goic, M., Pacheco, J., Aguilera, P., Caro, A., Basso, L. <i>Journal of Infection and Public Health</i>, 2025, ELSEVIER	

Optimizing pit stop strategies in Formula 1 with dynamic programming and game theory

Joint work with: Aguad, F.

European Journal of Operational Research, 2024, INFORMS

Affinities and Complementarities of Methods and Information Sets in the Estimation of Prices in Real Estate Markets

Joint work with: Bozanic-Leal, M., and Goic, M.

Journal of Forecasting, 2024, Wiley

Analytics Saves Lives During the COVID-19 Crisis in Chile

Joint work with: Basso, L., Goic, M., Olivares, M., Sauré, D., et al.

Inform Journal on Applied Analytics, 2023, INFORMS

On the Optimization of Pit Stop Strategies via Dynamic Programming

Joint work with: Carrasco, F.

Central European Journal of Operations Research, 2022, Springer

On the Resource Allocation for Political Campaigns

Joint work with: Morales, S.

Production and Operations Management, 2021, Wiley

On a Variation of Two-part Tariff Pricing of Services: A Data-Driven Approach

Joint work with: Perakis, G.

M&SOM, 2021, INFORMS

Consumer Surplus Under Demand Uncertainty

Joint work with: Cohen, M., and Perakis, G.

Production and Operations Management, 2021, Wiley

The effect of correlation and false negatives in pool testing strategies for COVID-19

Joint work with: Basso, J. L., Salinas, V., Saure, D., and Yankovic, N.

Health Care Management Science, 2021, Springer

Contingent Preannounced Pricing Policies with Strategic Consumers

Joint work with: Correa, J. R., and Montoya, R.

Operations Research, 2016, INFORMS

**Submitted
Papers/Working
Progress**

Voter Loyalty under Urban Transformation in Barcelona's Superblocks

Submitted, joint work with Orrego, J., Fernández, M., Triguero-Mas, M., Marquet, O.

Optimizing Pit Stop Strategies in Formula 1: Deep Reinforcement Learning vs. Mathematical Programming

Working paper, joint work with Méndez, F.

Estimating Checkout Lines with Transaction Data

Working paper with Olivares, M., Guerra, R., and Carrasco, F.

Efficient Computation of Exact p-values for Multinomial Tests

Working paper with Subiabre, F.

Parametric Estimation Under Diffuse Observations: An Application On Election Polls

Working paper with Morales, S.

Competition and Externalities in Green Technology Adoption

Working paper with Perakis, G.

Own Brand: Who benefits from it?

Working paper

Political choice estimation using demographic and voters' topic opinions

Working paper with Piña, C.

Software

fastei: Fast and scalable ecological inference methods

joint work with Ubilla, P., and Hermosilla, D.

R package (CRAN), 2025

**Refereed
Conference
Proceedings**

Competition and Externalities in Green Technology Adoption

2015 Sustainable Operations SIG, MSOM Toronto

2014 MSOM Seattle

Contingent Preannounced Pricing Policies with Strategic Consumers

2012 MSOM New york

Invited Talks

On the Resource Allocation for Political Campaigns

Catholic University, Santiago, Chile

Spring 2020

On the Resource Allocation for Political Campaigns

University Adolfo Ibañez, Santiago, Chile

Spring 2019

**Academic
Achievements**

IFORS Prize for OR in Development 2026, First Prize

2026

Public Impact Award, University of Chile

2025

Best Teaching Award in the Master's in Business Analytics

2025

Best undergraduate teaching award in the Faculty of Physics and Mathematics

2024

Best full-time teaching award in the Department of Industrial Engineering

2024

Franz Edelman Award: "Analytics Saves Lives During the Covid Crisis in Chile"
2022

Best Student Paper at POMS: College of Supply Chain Management

2015

Ranked number one of the Master in Operations Management

Best teaching assistant of 2010

2011

Best teaching assistant of 2011

2012

Distinguish student during years

2005 - 2009

Gold medal in the national (Chilean) math olympics

2002

**Research
Internships**

University of Columbia

Winter 2011

Worked with Nicolás Stier-Moses on a problem in games and optimization. Also audited two courses.

**Working
Experience**

Apple

Summer 2015

Internship

Cupertino, CA

Develop an optimization tool to improve the supply chain process resulting in savings of several millions of dollars each coming year. The tool is able to solve formulate, solve, and output on-the-fly the different business rules of the problem in procurement meetings.

CODELCO

Spring 2011

Advance Excel Course

Santiago, Chile

Teach as a private consultant the main tools of Microsoft Excel in ten classes, reviewing exercises

to put in practice the wide range of functions, shortcuts, macros and other features that this software provides.

Falabella Summer 2009
Consultancy Santiago, Chile
Worked on a model to predict sales of every store in Chile based on econometric regressions with specific independent variables for each of the stores.

Bank Itaú Chile Summer 2009
Internship Santiago, Chile
Create a worksheet to value a derivative (Interest Rate Swap), considering the different financial calendars, interest rates and other specifications.

**Teaching
(University of
Chile)**

Undergraduate:

Probability [IN3141-1]	Fall 2026
Probability [IN3141-1]	Spring 2025
Probability [IN3141-1]	Fall 2025
Probability [IN3141-1]	Spring 2024
Probability [IN3141-1]	Fall 2024
Probability [IN3141-1]	Spring 2023
Probability [IN3141-1]	Fall 2022
Probability [IN3141-1]	Spring 2022
Probability [IN3141-1]	Fall 2022
Probability [IN3141-1]	Spring 2021
Probability [IN3141-1]	Fall 2021
Operations Management I [IN4703-1]	Spring 2020
Operations Management I [IN4703-2]	Fall 2020
Operations Management I [IN4703-2]	Spring 2019
Operations Management I [IN4703-2]	Fall 2019
Operations Management I [IN4703-1]	Fall 2018
Operations Management I [IN4703-1]	Fall 2018
Operations Management II [IN4704-2]	Spring 2011

Graduate:

Optimization - Master's in Business Analytics	Spring 2026
Business Analytics - MBA	Spring 2025
Introduction to R and Python - Master's in Business Analytics	Fall 2025
Operations Management [IN75R-1/DPDIIGDE05-1] - MBA	Spring 2025
Optimization - Master's in Business Analytics	Spring 2024
Operations Management [IN75R-1/DPDIIGDE05-1] - MBA	Spring 2024
Introduction to R and Python - Master's in Business Analytics	Spring 2023
Operations Management [IN75R-1/DPDIIGDE05-1] - MBA	Spring 2023
Operations Management [IN75R-1/DPDIIGDE05-1] - MBA	Spring 2022
Operations Management [IN75R-1] - MBA	Spring 2021
Operations Management [IN75R-1/DPDIIGDE05-1] - MBA	Spring 2020
Applied Methods for Data Analyses [IN5724-1] - Master in Operations Management	
Fall 2019	
Operations Management [IN75R-1] - MBA	Spring 2019
Operations Management [IN75R-1/IN7A6-1] - MBA	Spring 2018

Executive Education:

Data Driven Decision Making - Data Analytics Certificate	Spring 2021
Data Driven Decision Making - Data Analytics Certificate	Spring 2020
Data Driven Decision Making - Data Analytics Certificate	Spring 2019

Teaching (Washington University St. Louis) Assistant teacher (MIT)	<i>Graduate:</i> Implementing Strategy through Global Operations [MGT560Q] - MBA	Spring 2022
	<i>Undergraduate:</i> Optimization Methods in Management Science	Spring 2015
	<i>Graduate:</i> MBA Introduction to Operations Management	Fall 2015
	<i>Graduate:</i> LGO (Leaders for Global Operations) System Optimization and Analysis	Summer 2016
Assistant teacher (University of Chile)	<i>Graduate:</i> Executive-MBA Excel Class	Spring 2016
	<i>Undergraduate:</i> Advance Excel Course	Fall 2012
	Modeling and Optimization [IN3701]	Fall 2011
	Operations Research [IN3702]	Fall 2010
	Economics [IN2201-2]	Spring 2009
	Operations Research [IN3702]	Spring 2009
	Advance Excel Course	Spring 2009
	Economics [IN2201-2]	Fall 2009
	Operations Research [IN44A]	Fall 2009
	<i>Graduate:</i> Master in Operations Management Models and Algorithms of Optimization [IN77O-1]	Fall 2011
	Stochastic Models for Engineering Systems [IN79O-1]	Spring 2010
	<i>Graduate:</i> Master in Management for Globalization Operations Management [IN7A6-1]	Spring 2011
	Operations Management [IN7A6-1]	Spring 2010
	<i>Graduate:</i> MBA Advance Excel Course	Fall 2010