

Curriculum Vitae

Daniel Felipe Otero Leon, M.Sc. dfotero@umich.edu
PhD Candidate
Industrial and Operations Engineering
University of Michigan

Education

Ph.D. student, IOE, University of Michigan, Ann Arbor, Michigan, Expected graduation 2022.
Advisors: Brian Denton, Ph.D. and Mariel Lavieri, Ph.D.

Master of Science, Industrial Engineering, Universidad de los Andes, Bogotá, Colombia, August 2012.
Thesis Title: An Optimum Pricing Policy for a Multiclass Problem in the Airline Industry.
Keywords: Phase-Type Distributions, Stochastic Dynamic Programming, Dynamic Pricing, Revenue Management.
Adviser: Raha Akhavan-Tabatabaei, Ph.D.

Bachelor of Science, Industrial Engineering with Minor in Applied Mathematics, Universidad de los Andes, Bogotá, Colombia. August 2010.

Published Papers

Otero, D., Akhavan-Tabatabaei, R., "A stochastic dynamic pricing model for the multiclass problems in the airline industry". European Journal of Operations Research. DOI: 10.1016/j.ejor.2014.09.038

Otero, D., Akhavan-Tabatabaei, R., Escallon, M., Lopez, C., "A Pricing Model to Optimize the Promotions Period In Airlines". Management Science. DOI: 10.1016/j.ejor.2019.03.011

Working Papers

Otero-Leon, D., Denton, B., Lavieri, M., Sussman, J., Hayward, R., "Cholesterol Follow-up Policy in the Context of Preventive Treatment of Cardiovascular Disease."

Otero-Leon, D., Denton, B., Lavieri, M., Sussman, J., Hayward, R., " Effects of follow-up policies on statin adherence"

Professional Experience

- Teaching Experience:

Lecturer of Stochastic Modeling, Industrial Engineering Department, Universidad de los Andes, Bogota, Colombia. August 2012 – May 2018. Topics taught: Stochastic Modelling, Exponential distribution, Poisson Process, Markov Chains, and Dynamic Programming.

Lecturer of Decision Support Systems, Industrial Engineering Department, Universidad de los Andes, Bogota, Colombia. August 2013 – December 2016. Topics taught: Excel, Visual Basic, Access, and SQL.

Lecturer of Discrete Event Simulation, Industrial Engineering Department, Universidad de los Andes, Bogota, Colombia. June 2014 – December 2017. Topics Taught: Input Modelling, Random Variable Generation Models, Validation and Verification, Experimental Design, Variance Reduction Approaches, and Simulation with SIMIO.

Lecturer of Marketing Engineering, Universidad de los Andes, Bogota, Colombia, January 2017 to May 2018.
Topics Taught: Marketing Basics, Segmentation, Forecasting, Pricing, Social Network Marketing, New Products Strategy.

Teaching Assistant for Stochastic Modelling, Industrial Engineering Department, Universidad de los Andes, Bogota, Colombia. August 2009 - December 2010.

- Entrepreneur Experience:

Revenue Management Consultant, ImecTech SAS, Bogota, Colombia, January 2015 to May 2017.

Entrepreneur, Yield Optimization Intelligence, Bogota, Colombia, January 2014 to December 2014.

- Airline Industry Experience:

Market Analysis Specialist, Avianca, January 2011 to June 2012.

- Academic Services:

Vice President for the INFORMS Student chapter, University of Michigan, Ann Arbor, MI, January 2020 to December 2020.

Social Chair for the INFORMS Student chapter, University of Michigan, Ann Arbor, MI, January 2019 to December 2019.

Co-advisor for the IISE student chapter, Universidad de los Andes, Bogota, Colombia, January 2017 to June 2018.

Invited Presentations

Otero-Leon, D., 2020. "Stochastic Dynamic Programming: Applications in the Airline Industry and Healthcare Sector". The Group for Applied Mathematical Modeling and Analytics (GAMMA) seminar. Buffalo, New York.

Workshops:

Otero-Leon, D., 2018. "Introduction to Revenue Management". Analytics Forum 2018. Bogota, Colombia.

Conference Presentations

Otero, D. F., Denton, B.T., Lavieri, M.S., Sussman, J., Hayward, R.A., 2019. "Cholesterol Follow-up Policy in the Context of Preventive Treatment of Cardiovascular Disease". INFORMS Annual Meeting. Seattle, Washington.

Otero, D. F., Gavica, A., Denton, B.T., Lavieri, M.S., Sussman, J., Hayward, R.A., 2019. "Cholesterol Follow-up Policy in the Context of Preventive Treatment of Cardiovascular Disease". INFORMS Healthcare. Boston, Massachusetts.

Otero, D., Quiroga, C., Medaglia, A. 2017, "A Stochastic Optimization Model for Fleet Assignment under Uncertainty Conditions", INFORMS Annual Meeting. Houston, Texas.

Otero, D., Akhavan-Tabatabaei, R., Lopez, C., Escallon, M. 2016, "A Pricing Model To Optimize The Promotions Period In Airlines", INFORMS Annual Meeting. Nashville, Tennessee.

Otero, D., Akhavan-Tabatabaei, R., 2013, "A Pricing Model To Optimize The Promotions Period In Airlines", INFORMS Annual Meeting. Minneapolis, Minnesota.

Otero, D., Akhavan-Tabatabaei, R., 2012, "An optimum pricing policy for a multiclass problem in the airline industry ", INFORMS Annual Meeting. Phoenix, Arizona.

Otero, D., Akhavan-Tabatabaei, R., 2010, "Role of higher moments in the accuracy of G/G/m approximations ", INFORMS Annual Meeting. Austin, Texas.

Poster Presentations

Otero, D. F., Denton, B.T., Lavieri, M.S., Sussman, J., Hayward, R.A., 2020. Poster: "Effects of follow-up policies on statin adherence." 2020 Michigan Student Symposium for Interdisciplinary Statistical Sciences. Ann Arbor, Michigan.

Mura, I., Angulo, K. D., Cortés, M.F., Otero-León, D., Akhavan-Tabatabaei, R., 2017, "Supporting the Definition and Analysis of Cervical Cancer Public Health Policies", INFORMS Annual Meeting. Houston, Texas.

Co-advised Master Thesis

López, D., 2017. "A stochastic dynamic pricing model for massive consumption products". Universidad de los Andes, Bogotá, Colombia. Advisor: Ivan Mura

Cardenas, S., 2017. "Optimización de políticas de promociones multiproducto con canibalización". Universidad de los Andes, Bogotá, Colombia. Advisor: Andres Medaglia

Quiroga, C., 2017. "A stochastic optimization model for aircraft scheduling under uncertainty during operational Times". Universidad de los Andes, Bogotá, Colombia. Advisor: Andres Medaglia

López, C., 2015. "Pricing model to optimize the promotions period in airlines". Universidad de los Andes, Bogotá, Colombia. Advisor: Raha Akhavan- Tabatabaei

Directed Capstone Projects

Otero, A., 2017. "Simulación del turnaround para el aeropuerto El Dorado de Bogotá". Universidad de los Andes, Bogotá, Colombia.

Castiblanco, L., Ruiz, P. 2017. "Estimación de las probabilidades de restricción de operación en aeropuertos de Colombia por condiciones meteorológicas". Universidad de los Andes, Bogotá, Colombia.

Cortés, M. F. 2017. "Modelo epidemiológico para la evaluación de políticas de detección temprana del cáncer de cuello uterino en Colombia". Universidad de los Andes, Bogotá, Colombia.

Ardila, C. 2017. "Ampliación del modelo compartimentado de simulación para la evaluación de políticas de vacunación contra vph en Colombia". Universidad de los Andes, Bogotá, Colombia.

Vargas, D. 2017. "Aproximación numérica al fenómeno de canibalismo de marca". Universidad de los Andes, Bogotá, Colombia.

Pieschacón, J. F. 2016. "Implementación de revenue management y pronósticos de demanda para productos de consumo masivo". Universidad de los Andes, Bogotá, Colombia.

Jimenez, D. 2016. "Metodología de implementación revenue management para el sector hotelero". Universidad de los Andes, Bogotá, Colombia.

Escallón, M. 2015. "Input data distribution estimations for a pricing model to optimize the duration of promotion periods for airlines". Universidad de los Andes, Bogotá, Colombia.

Cardona, A. 2015. "Política óptima para la oferta de tiquetes en la industria deportiva". Universidad de los Andes, Bogotá, Colombia.

España, A. 2015. "Asignación de sillas para una empresa de transporte terrestre de pasajeros del eje cafetero". Universidad de los Andes, Bogotá, Colombia.

Urrea, V. 2015. "Modeling capacity allocation. A revenue management approach for Innomed S.A". Universidad de los Andes, Bogotá, Colombia.

Avellaneda, C. 2015. "Simulación de eventos discretos aplicada a una explotación. Explotación productora de leche Alameda Farm". Universidad de los Andes, Bogotá, Colombia.

Pineda, J.J. 2015. "Cálculo de la tasa óptima de overbooking para hoteles". Universidad de los Andes, Bogotá, Colombia.

Valenzuela, J.E. 2014. "Hotel room optimal pricing strategy based on the bid price curve". Universidad de los Andes, Bogotá, Colombia

Acosta, J.D. 2013. "Continental hotel demand recapture estimation". Universidad de los Andes, Bogotá, Colombia

Montoya, A.F. 2013. "Optimal customer's class segmentation for the rooms in a hotel. Blue Doors Hotels case study". Universidad de los Andes, Bogotá, Colombia

Imbett, J.F. 2013. "On the price elasticity of demand in hotel revenue management: A case study in the Colombian hotel sector". Universidad de los Andes, Bogotá, Colombia

Honors and Awards

Second Place Bussiness Ideas Contest. Universidad de los Andes. Bogotá, 2010.

Third Place Latin-American simulation contest with FLEXSIM. Vatic Group. 2009

First Place ICTs Innovation Contest. Universidad de los Andes. Bogotá, 2008.