

# Fernando Lejarza

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## EDUCATION

### The University of Texas at Austin

Ph.D. in Chemical Engineering (Cumulative GPA: 3.98/4.0)  
(Advanced coursework in Operations Research and Industrial Engineering)

Austin, TX  
Aug 2018 – May 2023 (Expected)

### Rice University

B.S. in Chemical and Biomolecular Engineering (Cumulative GPA: 3.91/4.0)  
Minor in Computational and Applied Mathematics

Houston, TX  
Aug 2014 – May 2018

## PROFESSIONAL & RESEARCH EXPERIENCE

### Facebook, Meta, Inc.

Data Science PhD Intern

Seattle, WA  
May 2022– Aug 2022

- Performed comprehensive data-driven analyses and leveraged machine learning tools to discover monetization opportunities for content creators on Facebook partner monetization products (SQL, Python)

### Dascena, Inc.

Clinical Data Science Intern

Remote  
Jun 2021 – Dec 2021

- Developed a data-driven policy learning approach for discharging ICU patients reducing readmissions by nearly 30% (Python)

### Global Operations, Dell Technologies

Data Science Graduate Intern

Remote  
Jun 2020 – Jul 2020

- Built statistical and machine learning models for multivariate demand forecasting to predict system-level sales for top selling server products, improving forecast accuracy by approximately 5% relative to existing models in use (Python)
- Consolidated historical sales, planner-level forecasts, and salesforce pipeline data leveraging multiple databases (SQL)

### Process and Energy Systems Engineering Group, The University of Texas at Austin

Graduate Research Assistant

Austin, TX  
Oct 2018 – Present

- Designed machine learning algorithms based on nonlinear programming to infer dynamical systems from data (Python)
- Developed efficient optimization under uncertainty frameworks for management of complex supply chains (Python)

## LEADERSHIP & SERVICE

### Jon Brumley Texas Venture Labs, McCombs School of Business, The University of Texas at Austin

Associate

Austin, TX  
Jan 2021 – May 2021

- Participated in a volunteer consulting project developing consumer and market research reports, analytics solutions, pricing models, and go-to-market strategies for an Agriculture Technology (AgTech) startup

### Cockrell School of Engineering, The University of Texas at Austin

Graduate Leadership Council Treasurer, McKetta Department of Chemical Engineering (ChE)

Austin, TX  
Oct 2019 – May 2020

- Allocated funds and generated annual budgets and other financial reports for decision-making in council meetings

Graduate Recruitment Chair, McKetta Department of Chemical Engineering (ChE)

Oct 2019 – Mar 2020

- Planned and led Visit Weekend event hosting students accepted into the Chemical Engineering Ph.D. program.

## SELECT PUBLICATIONS

- Lejarza, F., & Baldea, M. (2022). Discovering governing equations via moving horizon learning: The case of reacting systems. *AIChE Journal*, 68(6), e17567.
- Lejarza, F., & Baldea, M. (2022). Data-driven discovery of the governing equations of dynamical systems via moving horizon optimization. *Scientific reports*, 12(1), 1-15.
- Lejarza, F., Kelley, M. T., & Baldea, M. (2022). Feedback-Based Deterministic Optimization Is a Robust Approach for Supply Chain Management under Demand Uncertainty. *Industrial & Engineering Chemistry Research*, 61(33), 12153–12168.
- Lejarza, F., & Baldea, M. (2022). An efficient optimization framework for tracking multiple quality attributes in supply chains of perishable products. *European Journal of Operational Research*, 297(3), 890-903.
- Lejarza, F., Pistikopoulos, I., & Baldea, M. (2021). A scalable real-time solution strategy for supply chain management of fresh produce: A Mexico-to-United States cross border study. *International Journal of Production Economics*, 240, 108212.
- Lejarza, F., & Baldea, M. (2021). Economic model predictive control for robust optimal operation of sparse storage networks. *Automatica*, 125, 109346.
- Tsay, C.\*, Lejarza, F.\*, Stadtherr, M.A., & Baldea, M. (2020). Modeling, state estimation, and optimal control for the US COVID-19 outbreak. *Scientific Reports*, 10, 10711.

## HONORS & ACCOMPLISHMENTS

Donald D. Harrington Graduate Fellowship (2021-2022); UT Energy Week Research Competition – 2<sup>nd</sup> place (2021); Process Systems Engineering Research Award (2020); Graduate School Professional Development Award (2020); T. H. D.M Timmins Endowed Fellowship (2018); Rice Undergraduate Scholars (2018); Rice Honor Roll (2015-2017); W. M. McCardell Scholarship (2017)

## SKILLS

Python (Data visualization, Pyomo, Pandas, Scikit-learn, PyTorch), SQL, MATLAB (YALMIP, MPT), GAMS, R, LATEX, Jira Software