Craig Fernandes

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Education

PhD Operations Research, University of Toronto   Sep 2021 – Aug 2026
Advisors: Timothy C.Y. Chan and Ningyuan Chen

MASc Operations Research, University of Toronto   Jan 2020 – Aug 2021
Advisor: Timothy C.Y. Chan

BASc Industrial Engineering, University of Toronto   Sep 2014 – May 2018

Research Visits

Dartmouth College, Tuck School of Business   Summer 2024
Hosts: James Siderius and Raghav Singal

Research (by Topic)

Operations Management

11. **Data-Driven B2B Pricing: Learning from Bargainers**
Timothy Chan, Ningyuan Chen, Craig Fernandes
Working paper, 2025.

10. **Estimating Distributions with Failure Rate Properties from Noisy Quantile Data**
Timothy Chan, Ningyuan Chen, Craig Fernandes, Muhammad Maaz
Working paper, 2025.

9. **Handicapping Strategies for Maximizing Engagement in Amateur Darts Tournaments**
Timothy Chan, Craig Fernandes, Rachael Walker
Working paper, 2025.
- **First Place, MIT Sloan Sports Analytics Conference Paper Competition, 2024**
- **Finalist, CORS Student Paper Competition (Undergraduate Category), 2023 [Awarded to Rachael]**

8. **Peer Review Market Design: Effort-Based Matching and Admission Control**
Craig Fernandes, James Siderius, Raghav Singal
Under review at **Management Science**, 2025.
- **Accepted, ACM Economics and Computation (EC), 2025**

7. **Income pools for superstar markets**
Timothy Chan, Ningyuan Chen, Craig Fernandes
Management Science, 2025 (Forthcoming).
- **First Place, CORS Student Paper Competition (Open Category), 2025**

6. **Points gained in football: Using Markov process-based value functions to assess team performance**

Timothy Chan, Craig Fernandes, Martin Puterman

Operations Research, 69(3): 877-894, 2021.

- Media Coverage: INFORMS Analytics Magazine

Analytics Education

5. **Moneyball for Murderball: Using analytics to construct lineups in wheelchair rugby**

Timothy Chan, Craig Fernandes, Albert Loa, Nathan Sandholtz

INFORMS Transactions on Education, 24(2):175-181, 2023.

- **First Place, INFORMS Case Competition, 2022**
- Media Coverage: ORMS Today

4. **Advising student-driven analytics projects: A summary of experiences and lessons learned**

Aaron Babier, Craig Fernandes, Ian Zhu

INFORMS Transactions on Education, 23(2):121-135, 2023.

- Media Coverage: ORMS Today

Sports Analytics

3. **Equity, diversity, and inclusion in sports analytics**

Craig Fernandes, Jason Vescovi, Richard Norman, Cheri Bradish, Nathan Taback, Timothy Chan

Journal of Quantitative Analysis in Sports, 20(2): 87-111, 2024.

2. **A Markov approach to untangling intention versus execution in tennis**

Timothy Chan, Doug Fearing, Craig Fernandes, Stephanie Kovalchik

Journal of Quantitative Analysis in Sports, 18(2): 127-145, 2022.

- **Finalist, MIT Sloan Sports Analytics Conference Poster Competition, 2022**

1. **Predicting plays in the National Football League**

Craig Fernandes, Ronen Yakubov, Yuze Li, Amrit Prasad, Timothy Chan

Journal of Sports Analytics, 6(1): 35-43, 2020.

Teaching Experience

Course Instructor

MIE368: Analytics in Action   Fall 2023

Teaching Assistant

MIE263: Stochastic Operations Research, Rated 4.62/5   Winter 2023, 2024, 2025

MIE368: Analytics in Action, Rated 4.86/5   Fall 2020, 2021, 2022

- **MIE Teaching Assistant Award, 2022**
- **MIE Group Teaching Assistant Award, 2020**

Invited Seminars

Rotman Young Scholar Seminar Series (Toronto)	2025
Tuck School of Business OM Group (Dartmouth College)	2024

Conferences

Data-Driven B2B Pricing

- INFORMS (Atlanta)	2025

Peer Review Market Design

- MSOM (LBS), ACM EC (Stanford), RMP (Columbia), INFORMS (Atlanta)	2025
- NYC Ops Day (NYU), CORS (Edmonton),	2025
- INFORMS (Seattle)	2024

Income Pools for Superstar Markets

- MIW (Virtual), CORS (Edmonton), MSOM (LBS), RMP (Columbia), INFORMS (Atlanta)	2025
- MSOM (McGill), RMP (Imperial), INFORMS (Phoenix)	2023
- CORS (Vancouver), INFORMS (Indianapolis)	2022

Handicapping Strategies for Maximizing Engagement in Amateur Darts Tournaments

- NESSIS (Harvard), SSAC (MIT)	2023, 2024

A Markov approach to untangling intention versus execution in tennis

- CORS (Virtual), NESSIS (Harvard), SSAC (MIT)	2021, 2022

Points gained in football: Using Markov process-based value functions to assess team performance

- CORS (Halifax), Sport Innovation Summit (Toronto)	2018, 2019

Predicting plays in the National Football League

- NESSIS (Harvard), CORS (Halifax), Sport Innovation Summit (Toronto)	2017, 2018, 2019

Industry

Amazon, Data Scientist I (Supply Chain Optimization Technologies)	Summer 2021
PepsiCo, Process Improvement Engineering Intern	Summer 2017, 2019

Research Mentorship

Undergraduate Thesis Advising (and first position)

Rachael Walker	solo-advised	Analyst, Birch Hill Equity Partners	2023
Mustafa Arif	co-advised with Binghao Zhang	Master's, MIT Sloan	2021
Michael Yin	co-advised with Timothy Chan	Master's, University of British Columbia	2020
Albert Loa	co-advised with Timothy Chan	Master's, University of Toronto	2020

Service

Session Chair

INFORMS Annual Meeting (Revenue Management)	2025
CORS Annual Meeting (Revenue Management)	2025
CORS / INFORMS International (Sports Analytics)	2022

Scholarships

Paul Cadario Fellowship in Global Engineering ($8,900)	2025
NSERC CGS MSFSS ($6,000)	2023
Mitacs Globalink Research Award ($6,000)	2023
TD MDAL Research Grant ($4,000)	2023
NSERC Vanier CGS ($150,000)	2023-2025

- **Canada's most competitive PhD scholarship (~4% acceptance rate)**

NSERC CGS D [Declined] ($105,000)	2023-2025
Wallberg Research Fellowship ($7,500)	2022
U of T SGS Conference Travel Grant ($800)	2022
U of T MIE Conference Travel Grant ($650)	2022
Ontario Graduate Scholarship ($15,000)	2021
NSERC CGS M ($17,500)	2020
U of T President's Entrance Scholarship ($5,000)	2014