

# Craig Fernandes

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## Academic Positions

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### The Wharton School, University of Pennsylvania

Aug 2026 –

Assistant Professor, Operations, Information & Decisions

### Tuck School of Business, Dartmouth College

Summer 2024

Visiting Doctoral Scholar

Hosts: James Siderius and Raghav Singal

## Education

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### University of Toronto

PhD, Operations Research

Sep 2021 – May 2026

Advisors: Timothy C.Y. Chan and Ningyuan Chen

MASc, Operations Research

Jan 2020 – Aug 2021

Advisor: Timothy C.Y. Chan

BASc, Industrial Engineering

Sep 2014 – May 2018

Ranked 4th out of 105 students

## Research (by topic)

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### Innovative Markets

#### 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. [DOI, Ungated]

- Media Coverage: [INFORMS Analytics Magazine](#)

#### Income Pools for Superstar Markets

Timothy Chan, Ningyuan Chen, Craig Fernandes

**Management Science**, 2025 (Articles in Advance). [DOI, SSRN]

- **First Place, CORS Student Paper Competition (Open Category), 2025**
- **First Place, NUS Analytics for X Best Student Presentation, 2025**

#### Peer Review Market Design: Effort-Based Matching and Admission Control

Craig Fernandes, James Siderius, Raghav Singal

*Soon to be Submitted to* **Operations Research**, 2026. [SSRN]

- **Accepted, ACM Economics and Computation (EC), 2025**

#### Handicapping Strategies for Maximizing Engagement in Amateur Darts Tournaments

Timothy Chan, Craig Fernandes, Rachael Walker

*Working paper*, 2026.

- **First Place, MIT Sloan Sports Analytics Conference Paper Competition, 2024** [Video]
- **Finalist, CORS Student Paper Competition (Undergraduate Category), 2023** [Awarded to Rachael]

### **Data-Driven Pricing in Bargaining Markets**

Timothy Chan, Ningyuan Chen, Craig Fernandes

*Work in progress, 2025.*

### **Estimating Distributions with Failure Rate Properties from Noisy Quantile Data**

Timothy Chan, Ningyuan Chen, Craig Fernandes, Muhammad Maaz

*Work in progress, 2025.*

## **Analytics Education**

### **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, 2022. [DOI]

- Media Coverage: [ORMS Today](#)

### **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. [DOI]

- **First Place, INFORMS Case Competition, 2022**
- Media Coverage: [ORMS Today](#)

## **Sports Analytics**

### **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. [DOI]

### **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. [DOI]

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

### **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, 2023. [DOI]

## **Teaching Experience**

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### **Course Instructor**

MIE368: Analytics in Action, Average Rating 4.55/5

Fall 2023

### **Teaching Assistant**

MIE263: Stochastic Operations Research, Average Rating 4.78/5

Winter 2023, 2024, 2025, 2026

MIE368: Analytics in Action, Average Rating 4.86/5

Fall 2020, 2021, 2022

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

## Invited Seminars

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### Academic

Sloan School of Management (MIT)	Jan 2026
Darden School of Business (Virginia) <sup>†</sup>	Jan 2026
Zicklin School of Business (Baruch College) <sup>†</sup>	Dec 2025
HKUST Business School <sup>†</sup>	Dec 2025
NUS Business School <sup>†</sup>	Dec 2025
The Wharton School (UPenn)	Dec 2025
IESE Business School	Dec 2025
London Business School	Dec 2025
Imperial Business School	Dec 2025
UCL School of Management	Dec 2025
Mendoza College of Business (Notre Dame)	Nov 2025
Rotman Young Scholar Seminar (Toronto)	May 2025
Tuck School of Business (Dartmouth)	Jul 2024

### Industry

<u>Teamworks Intelligence</u> (formerly Zelus Analytics)	Feb 2026
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## Conference Presentations

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INFORMS Annual Meeting	2022 - 2025
NUS Next-Gen Scholar's Symposium	2025
ACM Economics and Computation (EC)	2025
Marketplace Innovation Workshop (MIW)	2025
INFORMS RMP	2023, 2025
INFORMS MSOM	2023, 2025
CORS Annual Meeting	2018, 2021, 2022, 2025
MIT Sloan Sports Analytics Conference	2022, 2024
New England Symposium on Statistics in Sports	2017, 2021, 2023

## Research Mentorship

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### Undergraduate Thesis Advising (and first position)

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

### Industry

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

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<sup>†</sup> Cancelled due to logistics.

## Service

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### Session Chair

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

## Scholarships

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NSERC Postdoctoral Research Award [Declined] (\$140,000)	2026-2027
NSERC Vanier CGS (\$150,000)	2023-2025
<b>- Canada's most competitive PhD scholarship (~4% acceptance rate)</b>	
NSERC CGS Doctoral [Declined] (\$105,000)	2023-2025
TD MDAL Research Grant (\$4,000; \$3,000)	2023; 2025
Paul Cadario Fellowship in Global Engineering (\$8,900)	2025
NSERC CGS Michael Smith Foreign Study Supplement (\$6,000)	2023
Mitacs Globalink Research Award (\$6,000)	2023
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 Masters (\$17,500)	2020
U of T President's Entrance Scholarship (\$5,000)	2014

## Other Experience

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**Seminarian**, St. Augustine's Seminary Aug 2015 – June 2019

I lived and studied in a seminary for four years, training to be a Catholic Priest. This involved 30 hours a week of communal and volunteer activities. I overloaded my engineering courses to earn the equivalent of a Minor in Philosophy as preparation for a Master of Divinity, completing one year, before following a different path.

## References

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### Timothy Chan (Co-Supervisor)

Associate Vice-President and Vice-Provost  
Professor, Mechanical and Industrial Engineering  
University of Toronto  
Email: [tcy.chan@utoronto.ca](mailto:tcy.chan@utoronto.ca)

### Ningyuan Chen (Co-Supervisor)

Associate Professor, Rotman School of Management  
University of Toronto  
Email: [ningyuan.chen@utoronto.ca](mailto:ningyuan.chen@utoronto.ca)

### Martin Puterman (Co-Author)

Professor Emeritus, Sauder School of Business  
University of British Columbia  
Email: [martin.puterman@sauder.ubc.ca](mailto:martin.puterman@sauder.ubc.ca)

### Raghav Singal (Co-Author)

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Dartmouth College  
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