

# Utsav Sadana

Postdoctoral Fellow | GERAD & Desautels Faculty of Management, McGill University

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## Education

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**HEC Montréal, Montréal, Canada**

Aug. 2017 – May 2021

**Ph.D.** in Management Science

Ph.D. Thesis: “*Essays on Differential Games with Impulse Control*”

Advisor: Prof. Georges Zaccour

**University of Illinois at Urbana-Champaign (UIUC), USA**

Sep. 2019 – Feb. 2020

**Visiting Ph.D.** student at Coordinated Science Lab

Advisor: Prof. Tamer Başar

**Indian Institute of Technology Kanpur, India**

Jul. 2012 – May 2017

**B.Tech** in Materials Science and Engineering (with distinction) & **M.S.** in Economics

M.S. Thesis: “*Empirical Estimation of Corruption in the Judiciary of Bangladesh*”

Advisor: Dr. Debayan Pakrashi

## Work Experience

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**McGill University, GERAD, Montréal, Canada**

June 2021 – Present

**Postdoctoral Fellow (FRQNT)**

IVADO Project: “*Data-driven demand learning and sharing strategies for two-sided online marketplaces*”

Mentors: Prof. Mehmet Gumus, Prof. Erick Delage, Prof. Angelos Georgioui

**Mathematics and Statistics Help Center, HEC Montréal Library**

May 2019 - June 2019

Workshop Assistance

**ORT France, Paris**

Summer 2015

Research Intern

## Selected Awards and Honors

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- Teaching Excellence Award, Association of Postdoctoral Fellows, McGill University 2022
- Finalist for the “*Young Scholar Best Paper Award*” at ISDG, Porto, Portugal 2022
- GERAD Postdoctoral Fellowship 2021 – 2022
- FRQNT Postdoctoral Research Scholarship (B3X) 2021 – 2023
- PBEEE Quebec-India Doctoral Research Scholarship 2019 – 2021
- FRQNT Doctoral Research Scholarship (B2X) 2019 – 2021
- FRQNT International Internship Program for an internship at UIUC, Illinois 2018
- Fondation J.A. DeSève Bursary (PhD), HEC Montréal for academic excellence. 2018  
Awarded to 1 Ph.D. student every year
- Graduate Research Award (MHRD, India) to pursue Masters at IIT Kanpur 2016
- Merit-cum-Means Scholarship, IIT Kanpur 2013, 2014, 2015
- Summer Research Scholarship, ORT France, Paris 2015

## Journal Papers

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1. U. Sadana and E. Delage, “*The value of randomized strategies in distributionally robust risk averse network interdiction problems*”, Forthcoming in **INFORMS Journal on Computing**. [\[pdf\]](#)

2. U. Sadana, P.V. Reddy and G. Zaccour, “*Feedback Nash Equilibria in Differential games with Impulse Control*”, Forthcoming in **IEEE Transactions on Automatic Control**. [\[pdf\]](#)
3. U. Sadana, P.V. Reddy, T. Başar and G. Zaccour, “*Sampled-Data Nash Equilibria in Differential Games with Impulse Controls*”, **Journal of Optimization Theory and Applications**, 2021. [\[pdf\]](#)
4. U. Sadana, P.V. Reddy and G. Zaccour, “*Nash equilibria in nonzero-sum differential games with impulse control*”, **European Journal of Operational Research**, 2021. [\[pdf\]](#)

## Book Chapter

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1. M. Rudnianski, U. Sadana, and H. Bestougeff, “*Bayesian Networks and Games of Deterrence*”, Recent Advances in Game Theory and Applications: European Meeting on Game Theory, Saint Petersburg, Russia, 2015, and Networking Games and Management, Petrozavodsk, Russia, 2015, (Eds.) Leon A. Petrosyan and Vladimir V. Mazalov, **Springer**, 2016. [\[pdf\]](#)

## Talks

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- July 2022: International Symposium on Dynamic Games, Porto, Portugal.  
Title: “*Feedback Nash Equilibria in Differential games with Impulse Control*”
- June 2022: CORS/INFORMS International Conference, Vancouver, Canada.  
Title: “*Decision-focused Learning for a Newsvendor with Side Information*”
- Jun. 2021: Canadian Operational Research Society (CORS) Annual Conference (virtual)  
Title: “*The value of randomized strategies in distributionally robust risk averse network interdiction problems*”
- Nov. 2020: INFORMS Annual Meeting (virtual)  
Title: “*The value of randomized strategies in distributionally robust risk averse network interdiction problems*”
- Oct. 2020: Virtual Informal Systems Seminar, McGill and GERAD, Montréal.  
Title: “*Nash equilibria in nonzero-sum differential games with impulse control*”
- July. 2020: Workshop on Differential Games, Stony Brook Center for Game Theory, NY, USA.  
Title: “*Nash equilibria in nonzero-sum differential games with impulse control*”
- Jun. 2020: CRC - Decision Making Under Uncertainty Seminar Series (virtual)  
Title: “*The value of randomized strategies in distributionally robust risk averse network interdiction problems*”
- Oct. 2019: 11th Workshop on Dynamic Games in Management Science, Montréal, Canada.  
Title: “*Nash equilibria in nonzero-sum differential games with impulse control*”
- May 2019: Optimization Days, Montréal, Canada.  
Title: “*Is it time to intervene? An impulse control approach to dynamic games*”

## Courses Taught

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- **MGCR-271: Business Statistics** (Undergraduate Core Course), McGill University Summer 2022  
Instructor

## Supervision

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- Yug Garg, Summer Internship at Desautels Faculty of Management, McGill University, Canada, Summer 2022
- Nacer Fendri, End of Studies Internship at GERAD (HEC Montréal), Summer 2022

## Academic Service

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- **Session chair** for the “*Optimizing platform operations under uncertainty*” session at CORS/INFORMS International Conference, Vancouver, Canada, 2022
- Served on the **NSERC (CGS) Master’s award committee** with two professors at McGill University, 2022.
- **Co-organizer** of the online seminar series **Dynamic Games and Applications**, Oct. 2020 – Jun. 2021
- **Reviewer** for European Economic Review, Mathematical Methods of Operations Research, Operations Research Letters, The IEEE Control System Letters, and IEEE Transactions on Systems, Man, and Cybernetics: Systems

- **Session assistant** for an Information Theory session at Allerton Control Conference, Illinois, U.S., 2019

## Social Initiatives & Mentorship

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### **Workshop, Mathematics and Statistics Help Center, HEC Montréal**

Apr. 2019 – May 2019

- Prepared content (lecture notes, handouts, and slides that covered basics of linear algebra and probability theory) for conducting a workshop to help the incoming Master's students, in the field of economics, finance, and quantitative methods in management.

### **Inclusive Development of Informal Sector Workers**

May 2013 – Oct. 2013

Team Project, Citizens for Accountable Governance (CAG)

- Proposed structural layout for registration and grievance redressal of Informal Sector workers.