Utsav Sadana

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

⌘ Webpage   @ utsav.sadana@mail.mcgill.ca   ⬤ github.com/utsav19   🎓 Google Scholar

⬤ 4350 Avenue Hôtel-de-Ville, Apt 307, Montréal, H2W 2H5 QC, Canada

Education

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

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 Georghiou

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

- 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. Awarded to 1 Ph.D. student every year — 2018
- 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

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

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

- 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

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

Supervision

- 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

- **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

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.