

Utsav Sadana

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

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📍 Montréal, QC, Canada

Education and Academic Employment

McGill University, Montréal, Canada

June 2021 – Present

Postdoctoral Fellow (IVADO) at GERAD

Mentors: Prof. Mehmet Gumus, Prof. Erick Delage & Prof. Angelos Georgiou

HEC Montréal, Montréal, Canada

Aug. 2017 – May 2021

Ph.D. in Management Science

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

Work Experience

ORT France, Paris

Summer 2015

Research Intern

Mentor: Dr. Michel Rudnianski

Selected Awards and Honors

- GERAD Postdoctoral Fellowship [15,000\$] 2021 – 2022
- FRQNT Postdoctoral Research Scholarship (B3X) [90,000\$] 2021 – 2023
- PBEEE Quebec-India Doctoral Research Scholarship [33,300\$] 2019 – 2021
- FRQNT Doctoral Research Scholarship (B2X) [63,000\$] 2019 – 2021
- FRQNT International Internship scholarship for an internship at UIUC, Illinois [15,000\$] 2018
- Fondation J.A. DeSève Bursary (PhD), HEC Montréal for academic excellence. 2018
Awarded to 1 Ph.D. student every year [11,000\$]
- Graduate Research Award (MHRD, India) to pursue Masters at IIT Kanpur [₹150,000] 2016
- Merit-cum-Means Scholarship, IIT Kanpur [₹180,000] 2013, 2014, 2015
- Summer Research Scholarship, ORT France, Paris [2500€] 2015
- Secured 3rd position amongst 90 teams in Manthan National Youth Competition, India 2013

Publications

Journal Papers

1. 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**, 190(3):999-1022, 2021. [Paper]
2. U. Sadana, P.V. Reddy and G. Zaccour, “Nash equilibria in nonzero-sum differential games with impulse control”, **European Journal of Operational Research**, 295(2):792-805, 2021. [Paper]

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. [Book chapter]

Under Review and Working Papers

1. **U. Sadana**, P.V. Reddy and G. Zaccour, “Feedback Nash Equilibria in Differential games with Impulse Control”, Major Revision in **IEEE Transactions on Automatic Control**. [Preprint]
2. **U. Sadana** and E. Delage, “The value of randomized strategies in distributionally robust risk averse network interdiction problems”, Under second round of review in **INFORMS Journal on Computing**. [Preprint]

Talks

- **Nash equilibria in nonzero-sum differential games with impulse control**
 - Virtual Informal Systems Seminar, McGill and GERAD Oct. 2020
 - Workshop on Differential Games, Stony Brook Center for Game Theory, NY, USA Jul. 2020
 - Optimization Days, Montréal, Canada May 2019
 - 11th Workshop on Dynamic Games in Management Science, Montréal, Canada Oct. 2019
- **The value of randomized strategies in distributionally robust risk averse network interdiction problems**
 - Canadian Operational Research Society (CORS) Annual Conference (virtual) Jun. 2021
 - INFORMS Annual Meeting (virtual) Nov. 2020
 - CRC-DMU Seminar Series (virtual) Jun. 2020

Academic Service

- **Co-organizer** of the online seminar series *Dynamic Games and Applications*, Oct. 2020 – Jun. 2021
- **Reviewer** for 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, 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.