Amit Sinha

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Affiliations: Mila ☑, CIM ☑, Gerad ☑

Research Interests

Machine learning ; reinforcement learning ; representation learning; multi-agent systems; robotics

Education

PhD	**McGill University**, Electrical and computer engineering	Montréal, QC Jan 2021 – Dec 2025

- GPA: $3.85/4.0$
- **Thesis**: Reinforcement learning in partially observable systems and multi-agent team-based systems

MSc	**McGill University**, Electrical and computer engineering	Montréal, QC Aug 2018 – Dec 2020

- GPA: $4.0/4.0$
- **Thesis**: Reinforcement learning in partially observable environments using approximate information state (thesis ☑)

BE	**Birla Institute of Technology, Mesra**, Electrical and electronics engineering	Ranchi, India Aug 2013 – Jun 2017

- GPA: $8.11/10.0$

Experience

Adobe, PhD Research Intern	Bangalore, India Jun 2025 - Aug 2025

- Development of document understanding AI assistant solutions in Adobe Acrobat Reader

McGill University, Research Assistant	Montréal, QC May 2019 - Dec 2025

- Reinforcement learning algorithms for partially observable systems and multi-agent systems

Indian Institute of Science, Project Assistant	Bangalore, India Aug 2017 - Aug 2018

- Automation in Volvo trucks for proximity detection through vehicle detection
- Creating reusable vision-based maps through simultaneous localization and mapping

IBM Research Labs, Research Intern	Bangalore, India May 2016 - Jul 2016

- Design of an IoT-based system for video-based activity detection using motion detection and face detection

Featured Publications

- **Periodic agent-state based Q-learning for POMDPs** (paper ☑)   Dec 2024
  38th Conference on Neural Information Processing Systems (Neurips 2024)
  Amit Sinha, Matthieu Geist, Aditya Mahajan

- **Agent-state based policies in POMDPs: Beyond belief-state MDPs** (paper ☑)   Dec 2024
  Tutorial paper in *63rd IEEE Conference on Decision and Control (CDC 2024)*
  Amit Sinha, Aditya Mahajan

- **Dealing With Non-stationarity in Decentralized Cooperative Multi-Agent Deep Reinforcement Learning via Multi-Timescale Learning** (paper ☑)   Aug 2023

2nd Conference on Lifelong Learning Agents (CoLLA 2023)

Hadi Nekoei, Akilesh Badrinaaraayanan, **Amit Sinha**, Mohammad Amini, Janarthanan Rajendran, Aditya Mahajan, Sarath Chandar

- **Approximate information state for approximate planning and reinforcement learning in partially observed systems** (paper ↗) (code ↗)   Feb 2022
  Journal of Machine Learning Research (JMLR)

  Jayakumar Subramanian, **Amit Sinha**, Raihan Seraj, Aditya Mahajan

For an exhaustive list of all publications, see here ↗.

Academic Achievements and Awards

• Arthur Allan McAlear Fellowship (McGill)	Jan 2021
• McGill Engineering Doctoral Award (McGill)	Jan 2021
• Masters Top-Up award (McGill)	Oct 2020
• FRQNT scholarship (Québec)	May 2020
• Graduate Excellence Fellowship award (McGill)	Aug 2018
• Qualified in Zonal Informatics Olympiad 2013.	Jan 2013
• Qualified in the Karnataka Regional Mathematical Olympiad 2012.	Jan 2012

Volunteering

- Volunteered to help in training sessions for athletes with disabilities for Olympiques spéciaux Québec.   Jan 2020
- Volunteer to help new international students in the International Buddy Program at McGill University.   Aug 2019
- Volunteered to help new students get acclimated to daily life around McGill University as a student facilitator.   Aug 2019
- Volunteer at the International Conference of Robotics and Automation.   May 2019

Professional References

Available upon request.