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## Education

**Carnegie Mellon University, Pittsburgh, PA**                     Aug'21 - present
Ph.D. in Information Systems and Business Technologies.

**Université de Montréal / Mila - Quebec AI Institute**                     Sep'18 - July'21
M.Sc. by research in Artificial Intelligence, GPA: 4.3/4.3
Research Advisors - Prof. Aaron Courville and Prof. Sarath Chandar

**Indian Institute of Technology, Hyderabad (IIT-Hyderabad), India**                     Aug'13 - May'17
B.Tech(Hons.) in Computer Science and Engineering, CGPA: 9.12/10.0
Research Advisor - Prof. Vineeth N Balasubramanian

## Research Interests

Machine Learning, Reinforcement Learning, Lifelong Learning and Computer Vision.

## Publications

- **Continuous Coordination As a Realistic Scenario for Lifelong Learning**, **ICML 2021**. (paper, code)
- **PatchUp: A Regularization Technique for Convolutional Neural Networks**, Under review at a major ML conference. (paper)
- **Towards Jumpy Planning**, **ICML MBRL Workshop 2019 (Spotlight)**. (paper)
- **Attention Based Natural Language Grounding By Navigating Virtual Environment**, **WACV 2019**. Also, at **NeurIPS ViGIL workshop**, 2017. (paper, code)

(* = equal contribution)

## Experience

- **Research Assistant, Mila - Quebec AI Institute**                     Sept 2018-July 2021
  Advisors: Prof. Aaron Courville and Prof. Sarath Chandar.
    - **Lifelong Hanabi**
      A multi-agent lifelong learning testbed based on the game Hanabi, that has a large strategy space making it suitable for exploring lifelong learning algorithms.
    - **Jumpy Planning**
      Developed a model-based planner with a goal-conditioned policy trained with model-free learning, i.e dynamical models that jump between decision states; resulting in ICML-Workshop 2019 publication.
    - **Gradient-based learning methods in differentiable games**
      How cooperative behaviour emerges with learning methods like LOLA on Iterated Prisoner's Dilemma and further apply these in more challenging board games.
- **Member of Technical Staff, Adobe Systems, Noida, India**                     June 2017-August 2018
  Applied ML research for business use-cases concerning creative professionals. Fundamental ML research on language grounding, published at WACV 2019.
- **Research Intern, Bosch Research, Bengaluru, India**                     May-July 2016
  Mentor: Dr. Kumar Rajamani

      R&D on early-stage detection of DR using DL on real-world dataset acquired by Bosch. Work resulted in publication at IBM I-CARE and has since been deployed for clinical trials by Bosch.
- **Software Developer Intern, Aerospike, Bengaluru, India**                     May-July 2015
  Performance benchmarking of secondary indexes in Aerospike DB, server-side optimizations of secondary index and prototyped range-queries on strings (Link).

## Teaching Experience

- **Université de Montréal**
    - Representation Learning - Instructor: Dr. Aaron Courville                     Winter 2020
- **IIT-Hyderabad**
    - Deep Learning for Vision - Instructor: Dr. Vineeth Balasubramanian                     Spring 2017
    - Applied Machine Learning - Instructor: Dr. Vineeth Balasubramanian                     Fall 2016

## Achievements

- William Larimer Mellon Fellowship, CMU.                                                    Aug 2021
- Université de Montréal / Mila graduate fellowship that includes full tuition fee waiver and stipend during the period of master's.                                                    Sept 2018 - July 2021
- Received Travel Award, NeurIPS 2019.                                                    Oct 2019
- Selected to attend the DLRL Summer School in University of Alberta, Edmonton.                                                    July 2019
- Research Excellence Award, IIT-Hyderabad.                                                    Apr 2017
- Academic Excellence Award, IIT-Hyderabad.                                                    Apr 2014
- Received merit certificate from C.B.S.E for being among top 0.1% in India.                                                    May 2013
- Was among the top 40 all over India selected to write Indian National Mathematics Olympiad.                                                    Feb 2013

## Academic Service

- Reviewer - AAAI (2021,2020), AI for Social Good workshop, NeurIPS 2018.
- Sub-reviewer - ICCV 2019, ICCV 2017, ECML 2019.
- Student volunteer at NeurIPS 2018, ICRA 2019.

## Relevant Coursework

- At Université de Montréal: Fundamentals of Machine Learning, Probabilistic Graphical Models, Representation Learning(Deep Learning), Reinforcement Learning.
- At IIT-Hyderabad: Optimization Methods in Machine Learning, Information Retrieval, Bayesian Data Analysis, Computer Vision, Analysis of functions of single variables, Linear Algebra and Vector Calculus.

## Technical Skills

- **Programming Languages** - Python, C/C++.
- **Libraries** - PyTorch, TensorFlow, OpenCV.