

Abhishek Naik

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EDUCATION

- **Ph.D., Computing Science** CGPA: 4.0, 2018 - ongoing
University of Alberta, Edmonton, Canada Supervisor: Richard S. Sutton
- **Integrated B.Tech.+M.Tech., Computer Science and Engineering** CGPA: 9.49, 2013 - 2018
Indian Institute of Technology Madras, Chennai, India Supervisor: B. Ravindran

PAPERS

(* equal contribution)

- **Learning and Planning in Average-Reward Markov Decision Processes** [Paper]
Wan, Y., Naik, A.*, & Sutton, R. S.*
Under review.
- **Discounted Reinforcement Learning Is Not an Optimization Problem** [Paper, Poster]
Naik, A., Shariff, R., Yasui, N., Yao, H., & Sutton, R. S.
Presented at The Optimization Foundations of RL workshop at NeurIPS 2019.
- **MADRaS: Multi Agent DRiving Simulator** [Paper]
Santara, A., Rudra, S., Buridi, S., Kaushik, M., Naik, A., Kaul, B., & Ravindran, B.
Under review.
- **RAIL: Risk-Averse Imitation Learning** [Paper]
Santara, A., Naik, A.*, Ravindran, B., Das, D., Mudigere, D., Avancha, S., & Kaul, B.*
In proceedings of AAMAS 2018.

MASTER'S THESIS

Deep Reinforcement Learning: Reliability and Multi-Agent Environments [Thesis, Slides]

My goal was to contribute in making self-driving cars a reality in my country, India. I modelled this as a safety-critical multi-agent learning problem and 1) proposed a risk-averse imitation learning algorithm that had lower tail-end risk on various benchmarks w.r.t. the then state-of-the-art, 2) trialled a curriculum-based learning approach for multi-agent RoboSoccer, and 3) extended the TORCS simulator to release the first open-source driving simulator that supports multi-agent training.

WORK EXPERIENCE

- **Research Intern, Huawei Research** May 2019 - Aug 2019
Edmonton, Canada Supervisor: Hengshuai Yao
- **Research Intern, Intel Research Labs** May 2017 - July 2017
Bengaluru, India Supervisor: Bharat Kaul
- **Research Intern, Dept. of Computer Science, Purdue University** May 2016 - July 2016
Indiana, USA Supervisor: Bruno Ribeiro
- **Software Engineering Intern, Amazon Development Center** May 2015 - July 2015
Chennai, India Supervisor: Sravan Bodapati

TEACHING EXPERIENCE

- **Teaching Assistant, Reinforcement Learning I (CMPUT397)** Sep 2020 - Dec 2020
University of Alberta, Edmonton, Canada Instructor: Martha White
- **Teaching Assistant, Reinforcement Learning II (CMPUT609)** Jan 2020 - Apr 2020
University of Alberta, Edmonton, Canada Instructor: Richard S. Sutton
- **Content Developer, Coursera Reinforcement Learning Specialization** Jan 2019 - Oct 2019
University of Alberta, Edmonton, Canada Instructors: Adam White, Martha White
- **(Head) Teaching Assistant, Reinforcement Learning (CS6700)** Jan 2018 - May 2018
Indian Institute of Technology Madras, India Instructor: B. Ravindran
- **Teaching Assistant, Machine Learning (CS4011)** Aug 2017 - Nov 2017
Indian Institute of Technology Madras, India Instructors: B. Ravindran, M. Khapra

COMMUNITY SERVICE

- **Co-organizer, NeurIPS 2020 Tutorial on Policy Optimization in RL** Dec 2020
- **Organizer, Amii Tea Time Talks 2020** June 2020 - Aug 2020
- **Program Committee Member: AAAI 2020, ICLR 2020, AAAI 2021**
- **Executive Member, Computing Science Graduate Students' Association** Apr 2019 - Apr 2020
University of Alberta, Edmonton, Canada
- **Volunteer, Centre for Autism Services Alberta** Jan 2019 - ongoing
- **Mentor, Student Wellness Center, IIT Madras** Aug 2015 - May 2017

TALKS

- **Personalized Brain State Targeting via Reinforcement Learning** [Video, Slides]
The 3rd Neuromatch Conference, Virtual Oct 2020
- **Learning and Planning in Average-Reward MDPs** [Video, Slides]
Tea Time Talk, Virtual Aug 2020
- **On Intelligence: A Glimpse of the Diversity in Natural Intelligence** [Video, Slides]
Amii AI Meetup, Edmonton, Canada June 2020
- **Figuring Out How the Mind Works** [Video, Slides]
Cognitive Psychology Seminar, Dept. of Psychology, University of Alberta March 2020
- **Discounting – Does It Make Sense?** [Video, Slides]
Tea Time Talk, RLAI lab and Amii, Edmonton, Canada Aug 2019

RECENT AWARDS

- **Best Poster Award** runner-up at AICan 2019 poster competition. 2019
- **University of Alberta Graduate Fellowship** for excellent academic performance. 2019
- **Star TA Award** for outstanding work as a Teaching Assistant. 2018