Abhishek Naik

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EDUCATION

- **Ph.D., Computing Science**   CGPA: 4.0/4.0, *2018 - ongoing*
  University of Alberta, Edmonton, Canada   Supervisor: Richard S. Sutton

- **Integrated B.Tech.+M.Tech., Computer Science and Engineering**   CGPA: 9.49/10, *2013 - 2018*
  Indian Institute of Technology Madras, Chennai, India   Supervisor: B. Ravindran

PAPERS   (* equal contribution)

- **Towards Reinforcement Learning in the Continuing Setting**   [Paper, Poster]
  Naik, A., Abbas, Z., White, A., & Sutton, R. S.
  Presented at the *Never-Ending RL (NERL) workshop* at ICLR 2021.

- **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.
  In *Journal of Artificial Intelligence Research (JAIR)*, 2021.

- **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   Advisor: Hengshuai Yao

- **Research Intern, Intel Research Labs**   *May 2017 - July 2017*
  Bengaluru, India   Advisor: Bharat Kaul

- **Research Intern, Dept. of Computer Science, Purdue University** *May 2016 - July 2016*
  Indiana, USA Advisor: <u>Bruno Ribeiro</u>
- **Software Engineering Intern, Amazon Development Center** *May 2015 - July 2015*
  Chennai, India Advisor: <u>Sravan Bodapati</u>

TEACHING EXPERIENCE

- **Teaching Assistant, Reinforcement Learning II (CMPUT609)** *Jan 2021 - Apr 2021*
  University of Alberta, Edmonton, Canada Instructor: Richard S. Sutton
- **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, <u>Coursera Reinforcement Learning Specialization</u>** *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, Chennai, India Instructor: B. Ravindran
- **Teaching Assistant, Machine Learning (CS4011)** *Aug 2017 - Nov 2017*
  Indian Institute of Technology Madras, Chennai, India Instructors: B. Ravindran, M. Khapra

TALKS

- **Towards Reinforcement Learning in the Continuing Setting** [<u>Slides</u>]
  Never-Ending Reinforcement Learning (NERL) workshop at ICLR 2021, Virtual *May 2021*
- **Personalized Brain State Targeting via Reinforcement Learning** [<u>Video</u>, <u>Slides</u>]
  The 3rd Neuromatch Conference, Virtual *Oct 2020*
- **Learning and Planning in Average-Reward MDPs** [<u>Video</u>, <u>Slides</u>]
  Tea Time Talk, Virtual *Aug 2020*
- **On Intelligence: A Glimpse of the Diversity in Natural Intelligence** [<u>Video</u>, <u>Slides</u>]
  Amii AI Meetup, Edmonton, Canada *June 2020*
- **Figuring Out How the Mind Works** [<u>Video</u>, <u>Slides</u>]
  Cognitive Psychology Seminar, Dept. of Psychology, University of Alberta *March 2020*
- **Discounting – Does It Make Sense?** [<u>Video</u>, <u>Slides</u>]
  Tea Time Talk, RLAI lab and Amii, Edmonton, Canada *Aug 2019*

RECENT AWARDS

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

COMMUNITY SERVICE

- **Co-organizer**, *NeurIPS 2020 Tutorial on* <u>Policy Optimization in RL</u>   *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*