Ankesh Anand

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ankeshanand.com

Education

- **Mila, University of Montreal** — Montreal, Canada
  PhD in Machine Learning, supervised by Aaron Courville — *Fall 2017 - Present*
- **Indian Institute of Technology (IIT), Kharagpur** — Kharagpur, India
  Integrated M.Sc. in Mathematics and Computing — *2011 - 2016*

Publications

- **Procedural Generalization by Planning with Self-Supervised World Models** (arxiv)
  Ankesh Anand, *Jacob Walker, Yazhe Li, Eszter Vrtes, Julian Schrittwieser, Sherjil Ozair, Thophane Weber, Jessica B. Hamrick*
  Under Review
- **Pretraining Representations for Data-Efficient Reinforcement Learning** (arxiv)
  Max Schwarzer, Nitarshan Rajkumar, Michael Noukhovitch, ***Ankesh Anand****, Laurent Charlin, Devon Hjelm, Philip Bachman, Aaron Courville*
  Neural Information Processing Systems (NeurIPS), 2021
- **Data-Efficient Reinforcement Learning with Self-Predictive Representations** (arxiv)
  Max Schwarzer,****Ankesh Anand*****, Rishab Goel, R Devon Hjelm, Aaron Courville, Philip Bachman*
  Internal Conference on Learning Representations (ICLR), 2021 (Spotlight)
- **Unsupervised State Representation Learning in Atari** (arxiv)
  Ankesh Anand**, Evan Racah*, Sherjil Ozair*, Yoshua Bengio, Marc Cote, Devon Hjelm*
  Neural Information Processing Systems (NeurIPS), 2019
- **Blindfold Baselines for Embodied QA** (arxiv)
  Ankesh Anand*, Eugene Belilovsky, Kyle Kastner, Hugo Larochelle, Aaron Courville*
  ViGIL Workshop at Neural Information Processing Systems (NeurIPS), 2018
- **HoME: a Household Multimodal Environment** (arxiv)
  Simon Brodeur, Ethan Perez,* ***Ankesh Anand*****, Florian Golemo*, Luca Celotti, Florian Strub, Jean Rouat, Hugo Larochelle, Aaron Courville*
  International Conference on Learning Representations (ICLR) Workshop Track, 2018
- **We used Neural Networks to Detect Clickbaits: You won't believe what happened Next!** (arxiv)
  Ankesh Anand*, Tanmoy Chakraborty, Noseong Park*
  European Conference on Information Retrieval (ECIR), 2017
- **MMGAN: Manifold Matching Generative Adversarial Networks** (arxiv)
  Noseong Park, ***Ankesh Anand****, Joel Ruben Antony Moniz, Kookjin Lee, Tanmoy Chakraborty, Jaegul Choo, Hongkyu Park, Youngmin Kim*
  International Conference on Pattern Recognition (ICPR), 2018

Work Experience

- **DeepMind** London, UK
  Research Intern, Advisor: Jessica Hamrick *Feb 2021-June 2021*
  - Worked on identifying generalization cabailities of MuZero, and how to amplify them using self-supervised learning.
  - The internship project led to a first-author paper: Procedural Generalization by Planning with Self-Supervised World Models
- **Microsoft Research** Montreal, Canada
  Research Intern, Advisor: Philip Bachman *Sept 2019-May 2020*
  - Working on self-supervised learning for data-efficient RL.
  - The internship project led to a first-author publication: Data-Efficient Reinforcement Learning with Self-Predictive Representations
- **Microsoft Research** Montreal, Canada
  Research Intern, Advisor: Marc Cote, Devon Hjelm *January-June 2019*
  - Research at the intersection of Reinforcement Learning and Representation Learning.
  - The internship project led to a first-author publication at NeuRIPS'19: Unsupervised State Representation Learning in Atari
- **VISA Inc.** Bangalore, India
  Software Engineer *August 2016-August 2017*
  - Full stack development for the VISA Developer Platform
- **Google Summer of Code** Remote
  Student Developer *May-August 2015*
  - Built an online analytics platform for BRL-CAD which provides aggregated analytics for logs and performance metrics collected across different machines and platforms.

Miscellaneous

- Founded the Mila Blog, and served as the Lead Editor for the blog from 2020-2021.
- Organized the 1st Self-Supervision for Reinforcement Learning Workshop at ICLR 2021.
- Served as the Teaching Assistant for Mila's inaugural Self-Supervised Learning course in Fall 2020.
- Served as a reviewer for NeurIPS 2021 and ICLR 2021.

Technical Skills

- **Programming Languages:**
  - **Proficient:** Python, JavaScript, C++
- **Machine Learning Libraries:** PyTorch, JAX, scikit-learn, numpy, Pandas
- **Web Development:** Django, Flask, NodeJS, ReactJS, HTML5, CSS3, MySQL