Yannick Schroecker

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Education

PhD, Computer Science August 2014 - Present
MS, Computer Science August 2014 - December 2016
Georgia Institute of Technology

- Research interests: Reinforcement Learning, Imitation Learning, Machine Learning
- Advisor: Dr. Charles Isbell

Bachelor of Science, Computer Science April 2011 - June 2014
Darmstadt University of Technology

- Converted GPA (World Education Services): 3.88. Unconverted GPA: 1.15

Publications

C5 Bullard, Kalesha, Yannick Schroecker and Sonia Chernova. "Active Learning within Constrained Environments through Imitation of an Expert Questioner." *International Joint Conference on Artificial Intelligence (IJCAI)*. 2019 (accepted)

C4 Schroecker, Yannick, Mel Vecerik and Jonathan Scholz. "Generative Predecessor Models for Sample-efficient Imitation Learning." *International Conference on Learning Representations (ICLR)*. 2019

C3 Edwards, Ashley, Himanshu Sahni, Yannick Schroecker and Charles Isbell. "Imitating Latent Policies from Observation". *International Conference on Machine Learning (ICML)*. 2019 (accepted)

C2 Schroecker, Yannick and Charles Isbell. "State Aware Imitation Learning." *Advances in Neural Information Processing Systems (NeurIPS)*. 2017

C1 Schroecker, Yannick, Heni Ben Amor and Andrea Thomaz. "Directing Policy Search with Interactively Taught Via-Points." *Autonomous Agents & Multiagent Systems (AAMAS)*. 2016

W2 Edwards, Ashley, Himanshu Sahni, Yannick Schroecker and Charles Isbell. "Imitating Latent Policies from Observation". *ICML Workshop on Prediction and Generative Modeling in Reinforcement Learning*. 2018

W1 Schroecker, Yannick and Charles Isbell. "SAIL: A Temporal Difference Approach to State Aware Imitation Learning." *Reinforcement Learning and Decision Making (RLDM)*. 2017

Industry Research

Research Scientist Intern May 2018 - September 2018
DeepMind Technologies, London

- Developed novel imitation learning approach to robustly train agents using sparse expert data and evaluated the algorithm on simulated and real robotic insertion tasks.
- Results were presented at ICLR 2019.

Software Engineering Intern (PhD) - Facebook Research May 2017 - August 2017
Facebook, Menlo Park

- Built system for large scale deep reinforcement learning which formed the basis for Facebook Horizon (https://github.com/facebookresearch/horizon) and rolled out experiment on recommender systems to a million users.

- Researched dynamically changing rewards for optimal action selection under domain-specific constraints.

Core Engineering Intern June 2016 - August 2016
Tower Research Capital LLC, New York
- Evaluation and prototyping of state-of-the-art deep reinforcement learning algorithms for potential application in trading with the research & development team.

Academic Research

Graduate Research Assistant August 2014 - Present
Institute for Robotics and Intelligent Machines, Georgia Institute of Technology, Atlanta
- Research on algorithms using reinforcement learning methods to teach an agent to better reproduce demonstrations given by a human teacher.
- Research on reinforcement learning methods that can make use of sparse demonstrations or corrections and improve on them.

Bachelor Thesis: Artificial Curiosity for Motor Skill Learning April 2013 - June 2014
Intelligent Autonomous Systems Lab. Darmstadt University of Technology, Darmstadt, Germany
- Research on learning training schedules to teach a simulated robot arm to return the ball to arbitrary positions in table tennis using reinforcement learning.

Undergraduate Research Assistant September 2012 - October 2013
Fraunhofer Institute of Graphical Research (IGD), Darmstadt, Germany
- Review and comparison of text mining approaches related to latent Dirichlet allocation and keyphrase extraction with application in visual analytics system, enabling users to follow trends over time.

Teaching Experience

CS 7641/4641 Machine Learning – Head Teaching Assistant Spring 2019
Held guest lectures on:
- Q-learning, SARSA and DQN
- Evaluation metrics for supervised learning

CS 4641 Machine Learning – Head Teaching Assistant Spring 2017
Held guest lectures on:
- Bayesian inference and Monte Carlo methods
- Q-learning, SARSA and DQN
- Policy-iteration, actor-critic and A3C

Foundations of Computer Science I – Undergraduate Teaching Assistant Fall 2011

Program Committee and Review Service

Conference on Uncertainty in Artificial Intelligence 2019
International Conference on Machine Learning 2019
Workshop on Goal Specifications for Reinforcement Learning 2018
Future of Interactive Learning Machines Workshop at NIPS 2016

Technical Skills

Programming languages: Python, C++, Java
Libraries: Numpy, Scipy, MPL, Scikit Learn, Pytorch, Caffe2, Tensorflow, Theano, Lasagne
Tools: Linux, LaTeX, Git, Mercurial