

Lucas Lehnert

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Languages

- English (fluent)
- German (native)
- French (beginner)

Education

PhD in Computer Science <i>Brown University, Providence, Rhode Island, United States</i>	Sep. 2016 – May 2021 (expected)
Master of Science, Computer Science <i>McGill University, Montreal, Quebec, Canada</i>	Jan. 2015 – Aug. 2016
Bachelor of Science, First Class Honours in Computer Science <i>McGill University, Montreal, Quebec, Canada</i>	Sep. 2010 – Dec. 2014

Research Experience

PhD Research Assistant – Advisor: Prof. Michael Littman <i>Brown University, Providence, Rhode Island, United States</i> Research in Reinforcement Learning and Machine Learning	Sep. 2016 – present
PhD Internship in Reinforcement Learning Research – Advisor: Harm van Seijen <i>Microsoft, Montreal, Quebec, Canada</i> Analysis of value function representations of long horizon problems	Jul. 2017 – Aug. 2017
Master's Student – Advisor: Prof. Doina Precup <i>McGill University, Montreal, Quebec, Canada</i> Thesis Research in Reinforcement Learning	Jan. 2015 – Aug. 2016
Undergraduate Research Assistant – Advisor: Prof. Kaleem Siddiqi <i>McGill University, Montreal, Quebec, Canada</i> Image analysis of tagged heart MRI and building a computer simulation of a canine heartbeat	May 2014 – Aug. 2014
Undergraduate Research Assistant – Advisor: Prof. Doina Precup <i>McGill University, Montreal, Quebec, Canada</i> Development of 'curious' exploration algorithms (part-time during the Fall and Winter semesters, full-time during the Summer semesters)	May 2011 – Aug. 2013

Teaching Experience

Teaching Assistant for Software Development Comp 303 – Instructor: Prof. Martin Robillard <i>McGill University, Montreal, Quebec, Canada</i> Grading exams, holding office hours, and teaching lectures	Sep. 2014 – Dec. 2014
Teaching Assistant for Software Development Comp 303 – Instructor: Prof. Martin Robillard <i>McGill University, Montreal, Quebec, Canada</i> Grading exams and course projects and holding office hours	Sep. 2013 – Dec. 2013

Professional Experience

Intern as a Java Programmer

Oct. 2008

SAP Labs Canada, Montreal, Quebec, Canada

Performance evaluation of 3DES and RSA encryption algorithms on credit card numbers, as part of a High School project

Publications and Papers

1. Lucas Lehnert, Michael L. Littman
Transfer with Model Features in Reinforcement Learning
Lifelong Learning: A Reinforcement Learning Approach Workshop at FAIM, Stockholm, Sweden, 2018
2. David Abel, Dilip S. Arumugam, Lucas Lehnert, Michael L. Littman
State Abstractions for Lifelong Reinforcement Learning
Proceedings of the 35th International Conference on Machine Learning, PMLR 80:10-19, 2018
3. Lucas Lehnert, Romain Laroche, Harm van Seijen
On Value Function Representation of Long Horizon Problems
In Proceedings of the 32nd AAAI Conference on Artificial Intelligence, 2018
4. David Abel, Dilip Arumugam, Lucas Lehnert, Michael L. Littman
Toward Good Abstractions for Lifelong Learning
NIPS Workshop on Hierarchical Reinforcement Learning, 2017
5. Lucas Lehnert, Stefanie Tellex, Michael L. Littman
Advantages and Limitations of using Successor Features for Transfer in Reinforcement Learning
Lifelong Learning: A Reinforcement Learning Approach Workshop @ICML, Sydney, Australia, 2017
Best Student Paper Award
6. Lucas Lehnert, Doina Precup
Using Policy Gradients to Account for Changes in Behavior Policies under Off-policy Control
The 13th European Workshop on Reinforcement Learning (EWRL), 2016
7. Lucas Lehnert, Doina Precup
Policy Gradient Methods for Off-policy Control
arXiv:1512.04105 [cs.AI], 2015
8. Lucas Lehnert, Doina Precup
Building a Curious Robot for Mapping
Autonomously Learning Robots workshop (ALR), NIPS, Montreal, Canada, 2014.
9. Arthur Mensch, Emmanuel Piuze, Lucas Lehnert, Adrianus J. Bakermans, Jon Sparring, Gustav J. Strijkers, Kaleem Siddiqi
Connection Forms for Beating the Heart. Statistical Atlases and Computational Models of the Heart - Imaging and Modelling Challenges
8896: 83-92. Springer International Publishing, 2014

Awards

	Location of Tenure	
Entering PhD Fellowship in Computer Science Institutional award for PhD Students	Brown University	Sep. 2016 – May 2017
NSERC CGS M National Master's Fellowship	McGill University	Jan. 2015 – Dec. 2015
Computer Science Top-up Award Institutional award for Master's students	McGill University	Jan. 2015 – Apr. 2015
Runner-up at Computer Science Undergraduate Research Symposium	McGill University	Aug. 2014
NSERC USRA National award for undergraduate research	McGill University	May 2014 – Aug. 2014
1st Place at Computer Science Undergraduate Research Symposium	McGill University	Aug. 2013
NSERC USRA National award for undergraduate research	McGill University	May 2013 – Aug. 2013
NSERC USRA National award for undergraduate research	McGill University	May 2012 – Aug. 2012
1st Place at Computer Science Undergraduate Research Symposium	McGill University	Aug. 2011

Technical Skills and Interests

- Substantial knowledge and strong interests in **Reinforcement Learning and Machine Learning**
- Experience through research with **Statistics, Numerical Estimation, Image Analysis, and Signal Processing**
- Experience in effectively presenting research results through papers, presentations, and poster presentations
- Experience in mentoring and advising students with course projects and managing project groups as a teaching assistant

Other

- Organization and hosting of guest research talks at the Robotics Lab, Brown University
- Organization of Computer Science Department Graduate Student Orientation Event, Fall 2018
- International Graduate Student Peer Mentor, Fall 2018
- Organization and hosting of guest research talks at the Reasoning and Learning Lab, McGill University
- Participation at the 2014 NSERC CREATE-MIA Summer School Hackathon to build an augmented reality system

References

Michael Littman

Professor of Computer Science, Brown University, e-mail: mlittman@cs.brown.edu

Doina Precup

Professor, School of Computer Science, McGill University, e-mail: dprecup@cs.mcgill.ca