Philip S. Thomas

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Education

University of Massachusetts Amherst, Amherst, Massachusetts
Ph.D. Candidate, Computer Science, in progress, GPA: 3.94
Adviser: Professor Andrew G. Barto

Case Western Reserve University, Cleveland, Ohio
Master of Science, Computer Science, August 2009
Bachelor of Science, Computer Science, May 2008, Cum Laude
Minor in Artificial Intelligence and Psychology

Publications

P.S. Thomas and A.G. Barto. Conjugate Markov decision processes. To appear, *Proceedings of the Twenty-Eighth International Conference on Machine Learning*, 2011.

G. D. Konidaris, S. Osentoski, and P.S. Thomas. Value function approximation in reinforcement learning using the Fourier basis. To appear, *Proceedings of the Twenty-Fifth Conference on Artificial Intelligence*, August 2011.

P.S. Thomas, *A Reinforcement Learning Controller for Functional Electrical Stimulation of a Human Arm*, M.S. Thesis, Electrical Engineering and Computer Science Department., Case Western Reserve University, Cleveland, OH, August 2009.
Advisor: Professor Michael S. Branicky

P.S. Thomas, M.S. Branicky, A. van den Bogert, K.M. Jagodnik. Application of the actor-critic architecture to functional electrical stimulation control of a human arm. *Proceedings of the Twenty-First Innovative Applications of Artificial Intelligence*, 2009.

P.S. Thomas, M.S. Branicky, A. van den Bogert, K.M. Jagodnik. Creating a reinforcement learning controller for functional electrical stimulation of a human arm.
Proc. Fourteenth Yale Workshop on Adaptive and Learning Systems, 2008.

Research Experience

Intelligent Control of Upper Extremity Neural Prostheses, (2006-2009)
Research Assistant, under NIH Grant R21HD049662, developing a reinforcement learning controller for functional electrical stimulation (FES) control of a paralyzed human arm.

DARPA Urban Challenge 2007, Team Case team member (2006-2007)
Developed and implemented constrained multi-dimensional planner. Result was a heavily filtered cross between a Feasibility Graph and a weighted, bidirectional, nonholonomic, geometrically constrained Rapidly Exploring Random Tree, with sub-trees grown from choke points in the configuration space. Final version was run on Dexter at the 2007 Urban Challenge NQE.

Teaching Experience

Teaching Assistant, (Fall 2009 - Spring 2011, 4 semesters)
Teaching Assistant, for University of Massachusetts Amherst, course CMPSCI 311: Introduction to Algorithms.

Graduate Assistant, (Summer 2010)
I assisted with NSF Research Experience for Undergraduates (REU) program run by the Department of Computer Science at the University of Massachusetts Amherst. I ran several workshops to bridge the knowledge gap between undergraduate coursework and graduate research.

Honors

Honorable Mention, NSF Graduate Research Fellowship Program (2009)