

Jesse Hostetler

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Education

- **Oregon State University** Corvallis, OR
Ph.D. Computer Science 2017
 - Concentrations: Machine learning and programming languages
 - Dissertation: Monte Carlo Tree Search with Fixed and Adaptive Abstractions
 - Advisors: Thomas Dietterich and Alan Fern
- **University of Nebraska-Lincoln** Lincoln, NE
B.S. Computer Science and Psychology 2009

Experience

- **Oregon State University** Corvallis, OR
Graduate Research Assistant (PIs: Thomas Dietterich & Alan Fern) Fall 2010 - Spring 2017
 - Designed, analyzed, implemented, and empirically evaluated novel Monte Carlo tree search algorithms for Markov decision processes.
 - Applied online planning algorithms to mitigate blackouts in realistic simulated power grids.
 - Designed and implemented a dynamic Bayesian network model of opponent strategy in the video game *Starcraft* capable of predicting expert gameplay from partial observations.
- **Smart Information Flow Technologies** Minneapolis, MN
Intern June 2009 - June 2010
 - Modeled satellite task scheduling and threat scenarios in a planning description language and implemented software to demonstrate execution of the computed plans. This project was selected for “Phase 2” funding.
 - Built a complete prototype system for remote monitoring of human physiological responses to subliminal cues. This project later developed into US Patent 9390627 B1.
 - Wrote data cleaning/preprocessing scripts for a study of behavior-based user authentication.
- **University of Nebraska-Lincoln** Lincoln, NE
Undergraduate Research Assistant (PI: Leen-Kiat Soh) Fall 2007 - Spring 2009
 - Designed and implemented interactive education software to teach computer science concepts.
 - Developed software for capturing user interaction data from Web-based educational activities.
 - Implemented a point-and-click editor for creating Flash-based instructional software. (Honors capstone project)

Skills

- Expertise in machine learning, reinforcement learning, automated planning, probabilistic graphical models, statistics, deep learning
- Experienced in analysis, implementation, and empirical evaluation of machine learning algorithms
- Strong technical writing and oral presentation skills
- Programming languages: C++, Java, Python; familiar with Matlab, R, and many others
- Computer skills: Linux and Windows environments, \LaTeX , version control (Git, SVN)

Publications

Conference/Journal:

1. **J. Hostetler**, A. Fern, & T. Dietterich (accepted). Monte Carlo tree search with fixed and adaptive state abstractions. *Journal of AI Research (JAIR)*.
2. **J. Hostetler**, A. Fern, & T. Dietterich (2015). Progressive abstraction refinement for sparse sampling. *Conf. on Uncertainty in AI (UAI)*.
3. **J. Hostetler**, A. Fern, & T. Dietterich (2014). State abstraction in Monte Carlo tree search. *AAAI Conf. on Artificial Intelligence*.
4. B. King, A. Fern, & **J. Hostetler** (2013). On adversarial policy switching with experiments in real-time strategy games. *Int'l Conf. on Automated Planning and Scheduling (ICAPS)*.
5. **J. Hostetler**, E. Dereszynski, T. Dietterich, & A. Fern (2012). Inferring strategies from limited reconnaissance in real-time strategy games. *Conf. on Uncertainty in AI (UAI)*.
6. E. Dereszynski, **J. Hostetler**, A. Fern, T. Dietterich, T.T. Hoang, & M. Udarbe (2011). Learning probabilistic behavior models in real-time strategy games. *AAAI Conf. on AI in Design and Entertainment (AIIDE)*.
7. G. Nugent, K. Kupzyk, S. Riley, L.D. Miller, **J. Hostetler**, L-K. Soh, & A. Samal (2009). Empirical usage metadata in learning objects. *ASEE/IEEE Frontiers in Education Conference*.

Workshop:

8. B. King, A. Fern, & **J. Hostetler** (2012). Adversarial policy switching with application to RTS games. *AIIDE Workshop on Adversarial Real-time Games*.

Unrefereed:

9. D. Kortenkamp, P. Bonasso, D. Musliner, M. Pelican, & **J. Hostetler** (2011). Embedding planning technology into satellite systems. *AIAA Infotech@Aerospace Conference*.

Awards

- ARCS Caron & Larry Ogg Scholarship 2010-2013
- Undergraduate Creative and Research Experience (UCARE) Grant 2008-2009
- National Merit Scholarship 2005-2009

Professional Service

- Program committee member: AAAI (2014), UAI (2016, 2017), ICAPS (2017)
- Reviewer for: *Journal of AI Research* (2012, 2016), *Machine Learning* (2016, 2017)
- Member of the Oregon State University EECS Dept. Graduate Committee, 2015-2017