Wesley Tansey

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Research Statement

I'm a PhD student in the Neural Networks Research Group at UT Austin. My main research interests are machine learning and game theory, particularly how we can use function approximators to scale to games with large state and action spaces. I spend most of my days working on algorithms for discovering Nash equilibria in stochastic, partial-information games like poker. If successful, these techniques may have significant consequences for the next-generation smart energy grid and other reinforcement learning systems.

I am passionate about companies and ideas that have the potential to be hugely disruptive. I'm currently looking for a summer internship as a data scientist or software engineer at such a company.

Education

2011–Present	**Pursuing PhD in Computer Science, University of Texas at Austin**
	GPA 3.45
	Graduate Coursework:
	Graphical Models, Neural Networks,
	Natural Language Processing, Reinforcement Learning
	Mathematical Logic, Computer Security, Programming Languages
2006-2008	**MS in Computer Science, Virginia Tech**
	GPA 3.81
2003-2006	**BS in Computer Science, Virginia Tech**
	GPA 3.55

Select Publications

2012	W. Tansey, E. Feasley, and R. Miikkulainen. Accelerating evolution via egalitarian social learning. In *Proceedings of the Fourteenth International Conference on Genetic and Evolutionary Computation Conference (GECCO 2012)*, pages 919–926. ACM, 2012
2012	R. Miikkulainen, E. Feasley, L. Johnson, I. Karpov, P. Rajagopalan, A. Rawal, and W. Tansey. Multiagent learning through neuroevolution. *Advances in Computational Intelligence*, pages 24–46, 2012
2008	W. Tansey and E. Tilevich. Annotation refactoring: inferring upgrade transformations for legacy applications. In *Proceedings of the 23rd ACM SIGPLAN Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA 2008)*, volume 43, pages 295–312. ACM, 2008
2008	W. Tansey and E. Tilevich. Efficient automated marshaling of C++ data structures for MPI applications. In *Proceedings of the 2008 IEEE International Symposium on Parallel and Distributed Processing (IPDPS 2008)*, pages 1–12. IEEE, 2008

Work Experience

Currently	**Research Assistant, UT Austin** In the Neural Networks group led by Risto Miikkulainen Researching evolutionary game theory and population dynamics for solving large-scale stochastic games of partial information (poker). Co-wrote grant that earned funding from the NSF's BEACON Center for the Study of Evolution in Action.
2011-2012	**Co-founder, Curvio** Built, launched, and iterated a consumer web startup. Organically grew site to 2k uniques/day. Managed a team of 12 remote contractors and hundreds of turkers.
2011	**Teaching Assistant, Computer Science Department, UT Austin** Participated in developing course materials for hundreds of students. Helped setup up competition for AI MOOC class taught by Peter Norvig. Directly managed team of four undergrad researchers.
2010	**Co-founder, EffectCheck** Created novel machine learning algorithms for sentiment analysis. Worked all areas of the business: front-end, back-end, sales, partnerships, and marketing.
2010-2011	**Machine Learning Contractor, Natural Selection Financial** Researched adaptive machine learning models for quantitative finance. Developed algorithms that explore huge data sets and discover exploitable patterns in market prices.
2008-2010	**Research Associate, Lincoln Vale Adaptive Strategies (Hedge Fund)** Researched and implemented machine learning algorithms for automated trading. Developed 20+ real-world trading algorithms, with millions of dollars wagered on their predictions every day.

Skills

Python, Ruby, MATLAB, R, C#, C/C++, Java, HTML, CSS, and Javascript
Technical writing, team leadership, startups, games
Building systems to collect, clean, analyze, and learn from data

Awards and Miscellanea

Recipient of NSF Beacon Grant
NSF GRFP, Honorable Mention in Machine Learning category
Outstanding Graduate Student Award, Virginia Tech
Finished the San Diego Rock'n'Rock Marathon in 5:38:11
Projects available on my website: http://cs.utexas.edu/~tansey