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 recommender systems, particularly how we can use big data to discover and recommend better treatments for patients with chronic illness. I spend most of my days working on algorithms to create personalized, adaptive treatments from patient health logs. If successful, these techniques may be able to improve the lives of millions of people living with chronic disease, as well as making substantial advances in the field of reinforcement learning.

I am passionate about companies and ideas that use machine learning to make people healthier and happier.

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
	Game Theory (Stanford Coursera course, with distinction)
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 hierarchical Bayesian reinforcement learning for adaptive treatment discovery for patients with chronic illness. 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