

Rich Caruana

University Activities

- Graduating Students
 - o Alexandru Niculescu-Mizil. Thesis: Multitask Bayesian Networks Structure Learning
 - o Daria Sorokina. Thesis: Modeling Additive Structure and Detecting Interactions with Groves of Trees

Publications

- E. Ipek, S. McKee, K. Singh, R. Caruana, B. Supinski, and M. Schulz, "Efficient Architectural Design Space Exploration via Predictive Modeling." ACM Transactions on Architecture and Code Optimization (TACO), Vol. 4, No. 4 January 2008, pp.1-33.
- K. Singh, E. Ipek, S.A. McKee, B.R. de Supinski, M. Schulz, R. Caruana, "Predicting Parallel Application Performance via Machine Learning." Concurrency and Computation: Practice and Experience (CCPE), Vol. 19, No. 13, 10 December 2007, pp. 2219-2235.
- W.M. Hochachka, R. Caruana, D. Fink, S. Kelling, A. Munson, M. Riedewald, and D. Sorokina, "Data Mining for Discovery of Pattern and Process in Ecological Systems." Journal of Wildlife Management, Vol. 71, No. 7, pp. 2427-2437, 2007.
- N. Nguyen and R. Caruana, "Improving Classification with Pairwise Constraints: A Margin-based Approach." To appear in The Proceedings of The European Conference on Machine Learning and Practice of Knowledge Discovery in Databases (ECML PKDD), September 2008.
- N. Nguyen and R. Caruana, "Classification with Partial Labels." To appear in The Proceedings of the 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), August 2008.
- R. Caruana, A. N. Karaampatzakis, and Y. Yessenalina, "An Empirical Evaluation of Supervised Learning in High Dimensions." To appear in The Proceedings of the International Conference on Machine Learning (ICML), July 2008.
- D. Sorokina, R. Caruana, M. Riedewald, and D. Fink, "Detecting Statistical Interactions with Additive Groves of Trees." To appear in The Proceedings of the International Conference on Machine Learning (ICML), July 2008.
- E. Ipek, O. Mutlu, J. Martinez, and R. Caruana, "Self-Optimizing Memory Controllers: A Reinforcement Learning Approach." To appear in The Proceedings of The 35th International Symposium on Computer Architecture (ISCA), June 2008.
- N. Nguyen and R. Caruana, "Consensus Clusterings." The Proceedings of the Seventh International Conference on Data Mining (ICDM), October 2007.
- D. Sorokina, R. Caruana, and M. Riedewald, "Additive Groves of Regression Trees." The Proceedings of the European Conference on Machine Learning (ECML), September 2007 (Best Student Paper Award).
- D. Skalak, A. Niculescu-Mizil, and R. Caruana, "Classifier Loss Under Metric Uncertainty." The Proceedings of the European Conference on Machine Learning (ECML), September 2007.

Awards

- Best Student Paper Award at the European Conference on Machine Learning (ECML), 2007 for D. Sorokina, R. Caruana, and M. Riedewald, Additive Groves of Regression Trees.
- Invited Speaker, NIPS 2007 Workshop on Overcoming Computational Bottlenecks in Machine Learning, December 2007.
- Invited Speaker, AAAI Workshop on Evaluation Methods for Machine Learning, July 2007.