Chris Mesterharm

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Objective

I am looking for a challenging technical job where I can apply a range of skills including machine learning and data mining.

Experience

2012-current: I am a research scientist working at Applied Communication Sciences. I've worked on a range of projects that include various aspects of machine learning and computer science.

- JumpStart Project: I designed and implemented machine learning data analytics tools to extract useful patterns from a stream of events generated by applications. The experiments included various algorithms including Random Forests, Support Vector Machines, and Spectral Clustering.
- DFAC Project: I designed and implemented a distributed algorithm to dynamically reconfigure a 22 node wireless Link-16 network by sampling from a Bayesian Network.
- SMC Project: I developed a GUI interface to communicate with encryption software installed on an Android phone. I helped design and implement various aspects of the client server communication protocol.
- Radio Map Project: I helped develop and implement a protocol to allow a distributed set of nodes to organize into a type of overlay network. I performed extensive experiments to ensure that the network was efficient and allowed an effective use of distributed resources.
- Machine Learning with Hadoop Project: I used map reduce on a 50 node Hadoop cluster to implement an approximate nearest neighbor algorithm. The code was based on a locality-sensitive hashing algorithm, and the implementation resulted in a speed-up proportional to the number of cores in the cluster.
- Knowledge Discovery and Dissemination Project: This project required the extraction of information from over 100,000 documents and tables. I was responsible for coding an engine that took raw extracted information in a RDF format and unified references to identical objects.

2010-2012: I was a research scientist working at Rutgers University for Dr. Michael Pazzani on a project to improve text based Internet advertisement. Other projects included active learning, Internet product recommendation systems, and Bayesian learning.

2008-2009: I was a consultant for CSO Capital, an equity trading firm.

2007-2008: I was a visiting professor at Fordham University. I taught classes that include data mining, C++ programming, web programming, and operating systems.

Publications

Dissertation

Chris Mesterharm. Improving On-line Learning. Ph.D. dissertation. Department of Computer Science, Rutgers University, October 2007.

Journals

Chris Mesterharm. Tracking Linear-threshold Concepts with Winnow. In *Journal of Machine Learning Research* 4, pages 819-838, 2003.

Conferences

Chris Mesterharm and Michael J. Pazzani, Active Learning using On-line Algorithms. *KDD 2011,* pages 850-858.

Chris Mesterharm and D. Frank Hsu. Combinatorial Fusion with On-line Learning Algorithms. *Fusion 2008,* pages 1117-1124.

Alexander Strehl, Chris Mesterharm, Michael Littman, and Haym Hirsh. Experience-Efficient Learning in Associative Bandit Problems. *ICML 2006,* pages 889-896.

Chris Mesterharm. On-line Learning with Delayed Label Feedback. *ALT 2005*, pages 399-413.

Chris Mesterharm. Using Linear-threshold Algorithms to Combine Multi-class Sub-experts. *ICML 2003*, pages 544-551.

Chris Mesterharm. Tracking Linear-threshold Concepts with Winnow. *COLT 2002*, pages 138-152.

Chris Mesterharm. A Multi-class Linear Learning Algorithm. *NIPS 12*, pages 519-525, 2000.

Nick Littlestone and Chris Mesterharm. An Apobayesian Relative of Winnow. *NIPS 9*, pages 204-210, 1997.

Workshops

Sergiu Goschin, Chris Mesterharm, and Haym Hirsh. Improving Repeated Labeling for Crowdsourced Data Annotation. Workshop on Machine Learning in Human Computation & Crowdsourcing, ICML 2012.

Education

Rutgers, The State University of New Jersey
Ph.D., Computer Science, October 2007

Virginia Tech
B.S., Computer Engineering, May 1992
Minor in Mathematics

Awards

Invited to submit article for a special issue on learning theory in the Journal of Machine Learning Research covering the top learning theory results of 2003

Technology

Java, Python, C, R, Lisp, Bash, SQL, Linux, Android, MATLAB, Maple, Hadoop.

Dissertation Committee

Chair: Professor Haym Hirsh
Professor Michael Litmann, Professor Robert Schapire, Professor William Steiger