Announcement and Call for Papers USENIX

Third Workshop on Tackling Computer Systems Problems with Machine Learning Techniques (SysML08)

Sponsored by USENIX, the Advanced Computing Systems Association

http://www.usenix.org/sysml08

December 11, 2008 **San Diego, CA**

SysML08 will be held in conjunction with the 8th USENIX Symposium on Operating Systems Design and Implementation (OSDI '08), December 8–10, 2008.

Important Dates

Submissions due: *September 26, 2008, 5:00 p.m. PDT*
Notification of acceptance: *October 31, 2008*
Final papers due: *November 21, 2008*

Workshop Organizers

Program Co-Chairs

Armando Fox, *University of California, Berkeley*
Sumit Basu, *Microsoft Research*

Program Committee

John Mark Agosta, *Intel Research*
Shivnath Babu, *Duke University*
Jeff Chase, *Duke University*
Ira Cohen, *HP Labs*
Moises Goldszmidt, *Microsoft Research*
Michael Jordan, *University of California, Berkeley*
Randy Katz, *University of California, Berkeley*
Emre Kıcıman, *Microsoft Research*
Gerry Tesauro, *IBM Research*

Overview

Statistical machine learning techniques have recently shown great potential in meeting the challenges of scale and complexity in datacenter-scale and Internet-scale computing systems. At the same time, the real-world challenges and opportunities of systems problems require creative applications of existing techniques and open new opportunities in machine learning research. The SysML workshop brings together researchers working at the intersection of machine learning and systems to discuss ideas and techniques that will benefit the future of both fields.

Topics and Submissions

We invite authors to submit papers that are generally in the area of applying machine learning techniques to problems in computer systems.

Topics of interest include but are not limited to:

- Use of machine learning techniques to address reliability, performance, power management, security, fault diagnosis, or manageability issues in computer systems
- Applications of machine learning for programming, debugging, compilers, parallel programming, job scheduling, and cluster computing
- Challenges of mapping systems problems to machine learning algorithms and then applying the results back to real systems
- Challenges of scale in applying machine learning to large systems
- Experience with online data collection and machine learning analysis
- Integration of machine learning techniques into real-world systems and processes
- Tools and building blocks for SysML problems
- Comparisons of the performance of various machine learning models and algorithms when applied to systems problems and root cause analysis
- Techniques for validation of learned models and/or assessing the confidence of inferred results
- Model lifecycle management: adapting models to changing data and determining when models become invalid

Papers will be selected based on originality, technical merit, topical relevance, and their likelihood of stimulating discussion at the workshop. We encourage authors not only to discuss their particular approach to a problem, but also to highlight the challenges of the problem itself so that other researchers can benefit from the exposure to new areas. Furthermore, preference will be given to papers that deal with data from real systems:

while simulations are acceptable for certain scenarios, we strongly encourage authors to submit work that has moved beyond theory and has been deployed and tested.

Accepted papers will be available to participants before the workshop on the USENIX Web site, and will be made generally accessible after the workshop.

Submission Instructions

Please submit papers in PDF format through the workshop submission Web form on the SysML08 Call for Papers Web site, http://www.usenix.org/sysml08/cfp. The page limit is 6 double-column pages (10-point font, 1 inch margins), including all figures and references. The review process is single-blind: please include the names of the authors and their affiliations on the first page. Please do not submit previously published material. Please do not submit material for simultaneous review in multiple forums. Direct any questions to sysml08chairs@usenix.org.

Simultaneous submission of the same work to multiple venues, submission of previously published work, and plagiarism constitute dishonesty or fraud. USENIX, like other scientific and technical conferences and journals, prohibits these practices and may, on the recommendation of a program chair, take action against authors who have committed them. In some cases, program committees may share information about submitted papers with other conference chairs and journal editors to ensure the integrity of papers under consideration. If a violation of these principles is found, sanctions may include, but are not limited to, barring the authors from submitting to or participating in USENIX conferences for a set period, contacting the authors' institutions, and publicizing the details of the case.

Authors uncertain whether their submission meets USENIX's guidelines should contact the program cochairs, sysml08chairs@usenix.org, or the USENIX office, submissionspolicy@usenix.org.

Papers accompanied by nondisclosure agreement forms will not be considered. All submissions will be treated as confidential prior to publication on the USENIX SysML08 Web site.

Registration Materials

Complete program and registration information will be available in November 2008 on the workshop Web site. If you would like to receive the latest USENIX conference information, please join our mailing list: http://www.usenix.org/about/mailing.html