9th International Workshop on Feedback Computing

Sponsored by USENIX, the Advanced Computing Systems Association   **June 17, 2014, Philadelphia, PA**

Feedback Computing '14 will take place on June 17, 2014, in conjunction with the 11th International Conference on Autonomic Computing (ICAC '14) during USENIX Federated Conferences Week, June 17–20, 2014.

Important Dates

Paper submissions due: *April 4, 2014, 11:59 p.m. PDT*
Notification to authors: *April 22, 2014*
Final paper files due: *May 22, 2014*

Workshop Organizers

General Chair
Jie Liu, *Microsoft*

Program Co-Chairs
Sharad Singhal, *HP Labs*
Bhuvan Urgaonkar, *Pennsylvania State University*

Program Committee
Sherif Abdelwahed, *Mississippi State University*
Karl-Erik Arzen, *Lund University*
Jeffrey Kephart, *IBM Research*
Martina Maggio, *Lund University*
Arif Merchant, *Google*
Pradeep Padala, *VMware*
Mark Squillante, *IBM Research*
Eduardo Tovar, *Polytechnic Institute of Porto*
Qian Wang, *Pennsylvania State University*
Ming Zhao, *Florida International University*

Overview

The 2014 International Workshop on Feedback Computing will be held in June 2014, as part of USENIX Federated Conferences Week in Philadelphia, PA. The workshop is a unique forum dedicated to advancing feedback system theory and practice in modeling, analyzing, designing, and optimizing computing systems. It represents a timely response to the following two trends:

1. Computing systems are growing larger, smarter, and more complex, embedding in the physical world, human interactions, and societal infrastructure. Systematic and feedback-driven approaches are critical for addressing the dynamic complexity that arises in new fields such as cyber-physical systems, cloud computing, social networks, and mobile applications.

2. Advances in disciplines such as machine learning, mathematical optimization, network theories, decision theories, and data engineering provide new foundations and techniques that empower feedback approaches to address computing systems at scale and to achieve goals such as autonomy, adaptation, stabilization, robustness, and performance optimization.

Topics

The Feedback Computing Workshop seeks original research contributions and position papers on advancing feedback control technologies and their applications in computing systems, broadly defined. Topics of interest include but are not limited to:

- Theoretical foundations for feedback computing
- New control paradigms and system architecture
- Sensing, actuation, and data management in feedback computing
- Learning and modeling of computing system dynamics
- Design patterns and software engineering
- Experiences and best practices from real systems
- Applications in domains such as big data, cloud computing, computer networks, cyber-physical systems, data center resource management, distributed systems, mobility, power management and sustainability, real-time systems, and social networks

We encourage research papers containing original research results, challenge papers motivating new research directions, and application papers describing experiences from real systems. In addition, the workshop will facilitate discussion and collaborative research among the participants. One Best Paper Award will be announced at the end of workshop to recognize the current best work in feedback computing.

Paper Submissions

The workshop follows a single-blind review process. Authors are invited to submit three types of papers to emphasize the multiple focuses of this workshop:

- **Research Papers:** Research papers must represent original, unpublished contributions and must not exceed 6 pages in length (excluding references).
- **Challenge Papers:** Challenge paper submissions must motivate research challenges with real systems that can take advantage of feedback computing, and should not exceed 3 pages in length (excluding references).
- **Application Papers:** Application paper submissions must be based on real experience and working systems. All submissions should be formatted as annotated slides—a visual in the upper half of a page and the explanatory text in the lower half—and should not exceed 15 slides in length.

All papers will be submitted as PDF files via the Web submission form, which will be available here soon. All submissions should be typeset in two-column format in 10-point type on 12-point (single-spaced) leading, with the text block being no more than 6.5" wide by 9" deep.

Manuscript templates are available for download from the USENIX templates page at www.usenix.org/templates-conference-papers

At least one author of an accepted paper is expected to present the paper in person at the workshop. There will be no copyright-transferred formal proceedings for the workshop. However, accepted papers will be available online to registered attendees before the conference. If you do not wish your accepted paper to be made available to conference participants before the event, please notify production@usenix.org. Accepted submissions will be treated as confidential prior to publication on the USENIX Feedback Computing Workshop '14 Web site; rejected submissions will be permanently treated as confidential.