AwareCast CALL FOR PAPERS

AwareCast 2015: 4th Workshop on recent advances in behavior prediction and pro-active pervasive computing

http://www.comtec.eecs.uni-kassel.de/awarecast/
In conjunction with 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2015)
September 7-11, 2015, Osaka, Japan.

Context prediction breaks the border from reaction on past and present stimuli to proactive anticipation of actions. Research directions spread from applications for context prediction over event prediction, architectures for context prediction, data formats and algorithms. Recent work focuses on three main challenges:

1. Prediction beyond location
2. Benchmarks and common data sets
3. Common development frameworks

While there have been contributions targeting some of these challenges, we still see them as unsolved. Thus, we invite unique contributions addressing these challenges and provide a forum to facilitate collaboration among research groups focusing on context prediction.

Topics of interest include, but are not limited to:

Accurate prediction of seldom events: Important events are frequently also seldom events. How can we train a system on events, which are not likely covered by training data sets?

Identification of actions and situations suitable for context prediction: User behavior is noisy and not necessarily contains patterns, which can be predicted. In particular, predictable patterns are frequently interleaved with non-predictable patterns. Inherently, the underlying (stochastic?) process has to feature some regularity or trends.

Continuous learning: User behavior and habit changes over time. To guarantee constant accuracy, the approach must be able to 'forget' patterns, which grow unimportant.

Development frameworks: To pave the way for a broader use of context prediction in applications, robust and easy to use frameworks are in need. These frameworks should simplify the development of context prediction applications and preferably be available as open source.

Novel applications: As discussed above, research on context prediction used to focus heavily on location prediction. While contributions dealing with location prediction are welcome, when they address at least one of the other topics, we like to see novel application of context prediction.

Multi-User and Multi-Sensor Prediction: Since humans tend to behave similar, the context time series of other users may be helpful to increase the accuracy of context prediction for similar users. Additionally the utilization of multiple sensors may affect the robustness of the prediction approaches.

Data sets and benchmarks: Currently, comprehensive data-sets are created for context-computing. However, these data-sets are hardly sufficient to be applied for context prediction applications. In particular, data has to be sampled over longer time-spans and cover stochastic processes, which are inherently predictable.

Privacy and trust: Shared time series but also the fact that context time series might cover events and actions of remote entities rises questions of privacy and trust.

Data properties and metrics: Context data may have properties leveraging context prediction, e.g. periodicity of predictable patterns. How can properties of context data be generalized? Which properties make data suitable for context prediction, and which properties don't? Can we define metrics to measure data properties?

IMPORTANT DATES:

Extended Paper Submission Deadline: June 13, 2015
Author Notification: June 26, 2015
Camera-ready version due: July 03, 2015
Workshop: September 7, 2015

PROGRAM COMMITTEE, SUBMISSION INSTRUCTIONS:

See the workshop website:
http://www.comtec.eecs.uni-kassel.de/awarecast/

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