ACM Symposium on Applied Computing, ACM SAC 2014

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Conference

- held in: Gyeongju, Korea, 23. 3. - 28. 3. 2014
- organized by: Dongguk University, Gyeongju, Korea
- sponsored by: ACM Special Interest Group on Applied Computing

Interesting numbers

- submited papers: 916
- accepted papers: 221
- number of parallel sections: 4
- Acceptance rate: 24.12%

Interesting invited talks

Amir G. Aghdam: Distributed Connectivity Assessment of Underwater Sensors Network

- the problem of distributed connectivity assessment for a network of underwater sensors
- motivation: a sufficient condition for asymptotic almost-sure consensus in a network represented by a random directed graph (digraph), vertex connectivity of the expected communication graph is used as a measure of the connectivity of the underwater sensor network
- proposed distributed update scheme in which the sensors update their perception of the expected communication graph
- new algorithm: each sensor update its belief of the probabilities of different graph edges using the broadcast messages it receives
- the performance of the algorithms is validated by simulation

Sang Hyuk Son: Computing for the Smart New World

- motivation: increased wireless connectivity, the computing systems are becoming deeply embedded into everyday life and interact with processes and events of the physical world
- cyber-physical interaction has the potential to transform how humans interact with and control the physical world - cyber physical systems (CPS)
- examples of CPS: medical devices and systems, aerospace systems, transportation systems, smart grids, robotic systems, and smart spaces . . .
- critical demand for CPS to be adaptive to provide robustness to meet the requirements
- presented few examples of CPS, and discuss some of the research challenges in providing robustness in CPS

Interesting talks

Haiguang Li, Xindong Wu, Zhao Li: Online Learning with Mobile Sensor Data for User Recognition

- mobile devices built with powerful embedded sensors create new opportunities for data mining applications such as monitoring user activity
- user recognition based on sensor data of remote control, in which activity recognition determines a user's action that is in favor of collecting one's individual sensor data to identify different users
- challenges:
  - sensor data is sensitive and constantly changing which is difficult to obtain meaningful features
  - streaming sensor data for online learning is usually imbalanced on which traditional classifiers are not well performed
- introduced an efficient activity recognition algorithm by exploring the physical appearance of sensor data, and an online incremental classifier to deal with imbalanced data streams by adaptively generating training data

Di Wang, Jun Ma, Tao Lian, Lei Guo: Recommendation based on Weighted Social Trusts and Item Relationships

- In social networks, users linked together tend to have similar interests and some social-based methods emerged based on this assumption.
- Methods used in recommendation systems treat different friends equally and actually different people may have different influence on a person
- Item relationships provide rich information.
- The items liked by the same user may have similar characteristics and whether an item is preferred is influenced by its similar items
- Presented novel recommendation method which incorporates social trusts and item relationships

Obrázek : Model combination

Want to know more?

- Video records and photos available:
  `http://www.acm.org/conferences/sac/sac2014/`.
- List of accepted papers:
  `http://www.acm.org/conferences/sac/sac2014/TOC-Final-2-13-2014.pdf`.

Photo from excursion in Bulguksa Temple

THANK YOU!