Cuneyt Gurcan Akcora

Huawei Research

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Research Interests

- Graph theory, Large Scale Graph Analysis
- Profiling Interactions on Online Social Networks
- Real-Time Big Data Analytics
- Data Mining on Microblogging streams, Opinion Mining

Education

2010-2014 **Università degli Studi dell'Insubria**, Varese, Italy
◇ *Thesis: "Profiling user interactions on online social networks"*
◇ *PhD. in Dipartimento di Scienze Teoriche ed Applicate*
◇ Advisor: Prof. Elena Ferrari

2012 Feb-Apr **University of Texas at Dallas**
◇ *Visiting researcher, Department of Computer Science*
◇ Advisors: Bhavani Thuraisingham, Murat Kantarcioglu

2008-2010 **State University of New York at Buffalo**, Buffalo, NY
◇ *M.Sc. in Department of Computer Science and Engineering*
◇ *Thesis: "Using Microblogs for Crowdsourcing and Public Opinion Mining"*
◇ Advisor: Prof. Murat Demirbas

2005-2006 **Gent University**, Gent, Belgium
◇ *Department Elektronica en Informatiesystemen*
◇ *Erasmus Exchange Student*

2002-2007 **Karadeniz Technical University, KTU**, Trabzon, Turkey
◇ *B.Sc. in Electrical and Electronics Engineering*

Work Experience

2015 June - **Huawei Research Turkey**
◇ *Intelligent Search Lab.*

2014 Feb-Aug **Qatar Computing Research Institute (QCRI)**
◇ *Joint work with Prof. Stonebraker from MIT CSAIL*

Internships

2012 Jun-Aug **Yahoo! Research Barcelona**
◇ *Advisor: Francesco Bonchi*

2005 July-Aug **University of Cairo**, Cairo, Egypt
◇ IAESTE Student Program

Military Service

2014 Nov - 2015 Apr **Nigde Il Jandarma Komutanligi**

Honors and Awards

- ◇ Among three computer science students to be granted the Fulbright Scholarship in 2008 out of 700 applicants.
- ◇ Graduated as an honor student from Electrical and Electronics Engineering Department, KTU, 2007.
- ◇ IBM travel award for SIGKDD, July 2010.
- ◇ IEEE travel award for ICDM, December 2012.

Taught Courses

- ◇ Data Analysis with R. Master's level course, 2013.
- ◇ Privacy e sicurezza dei dati. Master's level course, 2012.

Publications

Conference Papers

- ◇ Ziawasch Abedjan, Cuneyt G. Akcora, Mourad Ouzzani, Paolo Papotti, Michael Stonebraker, "Temporal Rules Discovery for Web Data Cleaning". (To appear in **VLDB 2016**).
- ◇ Cuneyt Gurcan Akcora, Elena Ferrari, "Discovering Trust Patterns in Ego Networks", **The IEEE/ACM International Conference on Advances in Social Network Analysis and Mining, ASONAM 2014**.
- ◇ Cuneyt Gurcan Akcora, Barbara Carminati, Elena Ferrari, "Multi-dimensional Conversation Analysis across Online Social Networks", in **the 3rd IEEE International Conference on Social Computing and its Applications, 2013**, Karlsruhe, Germany.
- ◇ Cuneyt Gurcan Akcora, Barbara Carminati, Elena Ferrari, "Risks of Friendships On Social Networks", in **the 28th IEEE International Conference on Data Mining, ICDM 2012**, Brussels, Belgium.
- ◇ Cuneyt Gurcan Akcora, Barbara Carminati, Elena Ferrari, "Privacy in Social Networks: How Risky is Your Social Graph?", in **the 28th IEEE International Conference on Data Engineering, ICDE 2012**, Washington D.C, USA.
- ◇ Cuneyt Gurcan Akcora, Barbara Carminati, Elena Ferrari, "Network and Profile Based Measures for User Similarities on Social Networks", **12th IEEE International Conference on Information Reuse and Integration, IRI 2011**, Las Vegas, NV, USA.
- ◇ Cuneyt Gurcan Akcora, Barbara Carminati, Elena Ferrari, "Building Virtual Communities on top of Online Social Networks", **5th European Conference on Information Management and Evaluation, ECIME 2011**, Como, Italy.
- ◇ Murat Demirbas, Murat Ali Bayir, Cuneyt Gurcan Akcora, Yavuz Selim Yilmaz, Hakan Ferhatosmanoglu, "Crowd-Sourced Sensing and Collaboration Using Twitter", **IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks, WOWMOM 2010**, Montreal, Canada.

Journal Publications

- ◇ Cuneyt Gurcan Akcora, Elena Ferrari, "Computing Trust in Ego Networks with Imperfect Circles", Submitted to **Social Network Analysis and Mining**, Springer.
- ◇ Cuneyt Gurcan Akcora, Barbara Carminati, Elena Ferrari, Murat Kantarcioglu, "Detecting Anomalies in Social Network Data Consumption", **Social Network Analysis and Mining**, 2014 Springer.
- ◇ Cuneyt Gurcan Akcora, Barbara Carminati, Elena Ferrari, "User Similarities on Social Networks", **Social Network Analysis and Mining**, 2013 Springer.
- ◇ Yavuz Selim Yilmaz, Muhammed Fatih Bulut, Cuneyt Gurcan Akcora, Murat Ali Bayir, Murat Demirbas: "Trend sensing via Twitter", **Ad Hoc and Ubiquitous Computing**, 2014 Inderscience.

Workshops

- ◇ Cuneyt Gurcan Akcora, Murat Ali Bayir, Murat Demirbas, Hakan Ferhatosmanoglu, "Identifying Breakpoints in Public Opinion", **ACM SigKDD, 1st Workshop on Social Media Analytics, SOMA 2010**, also accepted to the **talks**, Washington D.C, USA.

Encyclopedia Entries

- ◇ Cuneyt Gurcan Akcora, Elena Ferrari, "User Similarities on Social Networks", **The Encyclopedia of Social Network Analysis and Mining, ESNAM**, Springer, 2014.
- ◇ Cuneyt Gurcan Akcora, Elena Ferrari, "Graphical User Interfaces for Privacy Settings", **The Encyclopedia of Social Network Analysis and Mining, ESNAM**, Springer 2014.

Workshops

- ◇ Cuneyt Gurcan Akcora, Murat Ali Bayir, Murat Demirbas, Hakan Ferhatosmanoglu, "Identifying Breakpoints in Public Opinion", **ACM SigKDD, 1st Workshop on Social Media Analytics, SOMA 2010**, also accepted to the **talks**, Washington D.C, USA.

Other Publications

- ◇ Cuneyt Gurcan Akcora, Murat Demirbas. "Twitter: Roots, Influence and Applications", Technical Report, 2010-01, Department of Computer Science and Engineering, University at Buffalo.

Research Projects

Crowd-Sourced Sensing and Collaboration Using Twitter

We designed and implemented crowd-sourced sensing and collaboration over Twitter, and showcased our system in the context of two applications: a crowd-sourced weather radar, and a participatory noise-mapping application. Our system is composed of three components: Askweet, Sensweet and Twitter clients. Sensweet is a smartphone application that publishes real-time readings from the integrated-sensors to Twitter. Askweet is a program that listens to its Twitter account for questions and processes the questions and aggregates the replies it receives to these questions from Sensweet and the Twitter clients. In the project, we proposed a SensorML based classification for future detection of sensors on Twitter. We believe that our system will result in collaborative tasking of world wide sensing devices. Published in WOWMOM, 2010.

Upinion: Identifying Breaking Points in Public Opinion

While polls are traditionally used for observing public opinion, they provide a point snapshot, not a continuum. In this project, we consider the problem of identifying breakpoints in public opinion, and propose using micro-blogging sites to capture trends in public opinion. This, to the best of our knowledge, is the first paper to employ an emotion corpus to classify emotion changes on microblogging sites. We use a combination of vector space and set space models to represent and analyze 250K tweets from Twitter about public opinion on two breaking news stories. Our experiments show that the proposed method is able to determine breakpoints in public opinion effectively. Published in KDD Workshop on Social Media Analytics, 2010.

Sight: Personalized privacy for social networks

To protect personal data in Online Social Networks (OSNs) against well-known privacy problems, several relationship-based access control mechanisms have been proposed, as well as, more expressive privacy settings have been adopted by commercial OSNs, like Facebook. Unfortunately, these efforts could result unproductive, due to users reluctance of setting complex privacy preferences. To overcome this problem, we propose a new model for privacy preference settings based on a risk concept. Findings of this project were presented at the 28th IEEE International Conference on Data Engineering, ICDE 2012.

Aetas: Temporal Rules Discovery for Web Data Cleaning

In a collaboration with MIT CSAIL, at the Qatar Computing Research Institute we developed Aetas, a system for the discovery of approximate temporal functional dependencies. We have used the data provided by `www.RecordedFuture.com`, which crawls the Internet and extracts knowledge with an event oriented approach. At the core of the system are two modules that exploit machine learning techniques to identify approximate dependencies and their durations from noisy web data. Our results are to appear in the VLDB 2016 conference.

Computer Skills

- ◇ Languages: LaTeX, Prolog, C, Java, PHP, SQL, XHTML, R, Python, Scala, JavaScript.
- ◇ OS/Tools/Libraries: OpenMPI, Twitter4J, jQuery, Jung.
- ◇ Open Source Projects: Apache Storm, Twitter Cassovary.

Language Skills

- ◇ Advanced: Turkish, English.
- ◇ Intermediate: Italian.