

DATA MINING NEWS

Volume 10

January 2017

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Last year, as the section Vice-Elect and Cluster Chair, I was fortunate to work with Dr. Cynthia Rudin (Chair), Dr. Michael Hahsler (Secretary/Treasurer), four council members (Dr. Paul Brooks, Dr. Kaibo Liu, Mustafa Gökçe Baydoğan, and Dr. Veena Mendiratta), and Dr. Ramin Moghaddass (webmaster & newsletter editors). Without their efforts, we could not have had such a successful year for our section.

At the INFORMS Annual Meeting in Nashville this year, the DM cluster sponsored 70 technical sessions into 4 parallel tracks that spanned the entire length of the meeting. I would like to thank all session chairs who organized high quality sessions for the cluster this year. More information about the cluster is included in an article below.

Dr. Mustafa Gökçe Baydoğan served as the chair of the SAS Data Mining Best Paper Award competition. Among the 28 papers submitted, top 8 papers were selected by a review committee of 30 reviewers to be presented at two separate sessions reserved for the competition. Two papers were awarded in the applied and/or methodological category; congratulations to the winners, Chitta Ranjan, and Xiaolei Fang. Another two papers were awarded in the theoretical category; congratulations to the winners Tuo Zhao and Paul Brooks. I would like to thank Dr. Baydoğan and the team of reviewers for their work in selecting the finalists and winners. More

A Message from the Chair

Dear Data Mining Section Members, first, I would like to express my sincere gratitude for your strong support of the INFORMS Section on Data Mining (DM) this year! Although the DM Section has consistently enjoyed a steady growth since its foundation, our membership has recently been declining. My first and foremost goal this year is to reverse this trend and stimulate growth again with the guidance of the past officers and the help of the current active members by reaching out to as many individuals who might be interested in taking part in our DM community as possible. I also plan to establish strong relationships with other INFORMS communities to strengthen the presence of the DM section within INFORMS.



information about the finalists is included below.

In conjunction with the INFORMS Annual Meeting, the 11th INFORMS Workshop on Data Mining and Decision Analytics was held. Workshop co-chairs Dr. Cem Iyigun, Dr. Ramin Moghaddass, and Dr. Asil Oztekin invested a tremendous amount of time and effort to organize the workshop, which was reflected in a high quality event. In addition, great thanks are given to our workshop sponsor Causal Analytics. More information about the workshop is included in an article below.

Again, It has been a great pleasure to work with all the officers this past year, and I look forward to another great year with a new slate of officers: Dr. Asil Oztekin (Chair-Elect), Dr. Ramin Moghaddass, Council Member, and Dr. Tong Wang, Council Member. Dr. Ali Dag is our new webmaster.

Onur Seref
Virginia Tech

Review of 2016 Annual Meeting

The 2016 INFORMS Annual meeting was held in Nashville, Tennessee on November 13-16, 2016. The Data Mining cluster sponsored 70 technical sessions into 4 parallel tracks that spanned the entire length of the meeting. The sessions covered a variety of topics including Machine and statistical learning and planning for mechanical, medical and bioinformatics applications; data analytics and optimization for manufacturing system design, energy and healthcare applications; social media and network analysis; and business/data analytics. Dr. Asil Oztekin will take the lead in organizing the DM Section for the INFORMS Annual Meeting next year.

Review of the 11th Workshop on Data Mining and Decision Analytics

The Data Mining (DM) Subdivisions of the Institute for Operations Research and Management Sciences (INFORMS) organized the Workshop on Data Mining and Analytics (INFORMS DM-Analytics 2016) on Nov 12, 2016 at Nashville, TN, in conjunction with the 2016 INFORMS Annual Conference. A total of 24 papers were selected under a peer-review process for presenting in two parallel all-day tracks (6 sessions) at the workshop and some were invited to a special issue of *European Journal of Operational Research* and *Decision Sciences*. Four keynote speakers presented at the workshop: Dr. Amit Basu (Southern Methodist Univ.), Dr. David Olson (Univ. of Nebraska Lincoln), Dr. Nick Street (Univ. of Iowa) and Dr. Olivia Sheng (Univ. of Utah). The detailed schedule of the program and the abstracts are available on the INFORMS website at

http://meetings2.informs.org/annual2016/pdfs/INFORMS_Data_Mining_Cover.pdf

Review of the SAS Data Mining Best Paper Award

Dr. Mustafa Gokce Baydogan organized the competition this year. 28 submissions were received on various DM topics, and the papers reviewed by review committee consisting of 30 reviewers. Two papers were awarded in the applied and/or methodological category and another two papers were awarded in the theoretical category. The information on the four finalists and their papers is as follows.

- **Tuo Zhao**, Han Liu, Lie Wang (*student-John Hopkins*)

“Calibrated Multivariate Regression with Application to Neural Semantic Basis Discovery”

- **Xiaolei Fang**, Kamran Paynabar, Nagi Gebraeel (*student-GaTech*)
“Residual Useful Lifetime Prediction Using a Degradation Image Stream”
- **J. Paul Brooks** and Jose H. Dula (*non-student-Virginia Commonwealth*)
“Robust PCA via L1-Norm Line Fitting”
- **Chitta Ranjan**, Samaneh Ebrahimi and Kamran Paynabar (*student-Georgia Tech*)
“Sequence Graph Transform (SGT): A Feature Extraction Function for Sequence Data Mining”.

Announcements

Dr. Asil Oztekin is co-editing the following two special issues.

- *Decision Sciences* journal, special issue theme of “Data Mining & Decision Analytics”. Full paper submission deadline: February 28, 2017.
- *European Journal of Operational Research*, special issue theme of “Business Analytics: Defining the field and identifying a research agenda”. Full paper submission deadline: January 31, 2018.

For questions and clarifications about either of these special issues, please contact: Dr. Asil Oztekin at asil_oztekin@uml.edu

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Tory Chen (2005-2006)

University of Texas at Arlington

Andrew Kusiak (2006-2007)

University of Iowa

Wei Jiang (2007-2008)

Stevens Institute of Technology

Xiaoming Huo (2008-2009)

Georgia Institute of Technology

Rong (Winnie) Duan (2009-2010)

AT&T Lab

Seoung Bum Kim (2010-2011)

Korea University

Jing Li (2011-2012)

Arizona State University

Paul Brooks (2012-2013)

Virginia Commonwealth University

M.K. Jeong (2013-2014)

Rutgers University

Art Chaovalitwongse (2014-2015)

University of Washington

Cynthia Rudin (2015-2016)

Duke University

For more info, please visit our website at

<https://www.informs.org/Community/Data-Mining-Section>