The 2022 INFORMS Workshop on Data Science

Hosted by The INFORMS College on Artificial Intelligence

Conference date: Saturday, October 15, 2022

Location: Indianapolis, Indiana

The INFORMS Workshop on Data Science is a premier research conference dedicated to developing data science theories, methods, and algorithms to solve challenging problems and benefit businesses and society at large. The workshop invites innovative data science research contributions that address business and societal challenges from the lens of statistical learning, data mining, machine learning, deep learning, reinforcement learning, network science, and artificial intelligence. The workshop welcomes original research addressing non-trivial data analytical challenges and problems in marketing, finance, supply chain, healthcare, energy, cybersecurity, social network services, privacy, credibility, etc. Contributions to novel methods may be motivated by insightful observations on the limitations of existing data science methods to address practical challenges or by studying entirely new data science problems. Similarly, novel techniques may be inspired based on the unique characteristics of a particular application environment. Research contributions on theoretical and methodological foundations of data science, such as optimization for machine learning and new algorithms for data mining, are also welcome.

Research Contributions May Include:

- Models for data science and predictive analytics
- Performance measures in data science with important practical implications
- Computational methods for big data, text mining, and natural language processing
- Innovative methods for social network analytics on individuals and firms
- Data acquisition, cleaning, integration, and best practices
- Data-driven methods for cybersecurity and data privacy problems
- Prediction of rare events, anomaly detection, and fraud detection
- Methods for induction and inference with missing values
- Data-driven methods for effective risk management
- Data science for healthcare: chronic disease management, preventative care, etc.
- Data science for industrial applications: energy, education, finance, supply chain, etc.
- Large-scale recommendation systems and social media systems
- Visual analytics for business data in image and video formats
- Mobile analytics and spatial-temporal data mining
- Experiences with big data project deployments
- Machine learning, reinforcement learning, and AI for business applications
- Adaptation of emerging deep learning techniques, e.g., transformers, graph embedding approaches for targeted business applications

Important Dates:

Paper Submission Open: May 24, 2022
Paper Submission Deadline (extended): ~~July 5, 2022~~ July 17, 2022
Notification of Paper Acceptance and Editorial Feedback Roundtables Enrollment: August 22, 2022
Early Registration Deadline (INFORMS early registration): September 12, 2022
Workshop Date: October 15, 2022

Information for Authors:

- Conference submission website: https://cmt3.research.microsoft.com/DS2022
- Submissions in the form of **complete papers** or **short papers** are welcome.
  - Complete paper submissions should be a maximum of 10 pages, including tables and figures. Only complete papers are eligible for the editorial feedback roundtables (more details are provided below).
  - Short paper submissions (which could be extended abstracts or work-in-progress papers) should be a maximum of 5 pages, including tables and figures.
  - References (irrespective of complete paper or short paper submissions) do not count towards the page limit.
- Use single-spaced text with 12-point font and one-inch margins on four sides, printable on 8.5 x 11-inch paper.
- Submissions must be blinded. No author information should appear anywhere in the document.
- INFORMS or Workshop on Data Science **does not take ownership of paper copyrights**.
- When uploading papers to the submission portal, the authors can indicate 1) whether or not to participate in the editorial feedback roundtables (described below) once their paper has been accepted, and 2) whether or not the paper's main contributor is a student (so as to be considered for the best student paper award).

Student Scholarship:

New this year, we will provide a scholarship to student authors or student co-authors of accepted workshop papers. This scholarship will cover the registration fees for the INFORMS meeting and the INFORMS Data Science Workshop. More details will be provided upon paper acceptance notifications.

Best Paper Awards:

The INFORMS College on Artificial Intelligence, which hosts the Workshop on Data Science, will be sponsoring three categories of awards: **the best complete paper, the best short paper,** and **the best student paper**.

Editorial Feedback Roundtables:

New this year, we will organize editorial feedback roundtables. The goal of the roundtables is to pair author teams of accepted complete papers with a Senior Editor or Associate Editor from premier journals, such as *MIS Quarterly*, *Information Systems Research*, and *Management Science,* to identify strategies on how the authors could potentially position and/or extend their

accepted workshop paper for journal submission. Note that these editorial feedback roundtables are not a fast-track submission process but rather an opportunity to seek feedback.

Organizing Committee:

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Olivia Sheng, University of Utah
Alexander S. Tuzhilin, New York University

Conference Chairs

Yong Ge, University of Arizona, yongge@arizona.edu
Gene Moo Lee, University of British Columbia, gene.lee@sauder.ubc.ca
Jingjing Zhang, Indiana University, jjzhang@indiana.edu

Program Chairs

Jingjing Li, University of Virginia, jl9rf@virginia.edu
Xiao Liu, Arizona State University, xiao.liu.10@asu.edu
Sagar Samtani, Indiana University, ssamtani@iu.edu

Publicity Chairs

- Konstantin Bauman, Temple University, tuh42084@temple.edu
- Dokyun (DK) Lee, Boston University, dokyun@bu.edu
- Sung-Hyuk Park, KAIST, sunghyuk.park@kaist.ac.kr
- Konstantina Valogianni, IE Business School, konstantina.valogianni@ie.edu
- Junjie Wu, Beihang University, wujj@buaa.edu.cn

Finance Chair

Brent Kitchens, University of Virginia, bmk2a@comm.virginia.edu

Webmaster

Myunghwan Lee, University of British Columbia, myunghwan.lee@sauder.ubc.ca