

The 2019 INFORMS Workshop on Data Science

Hosted by the INFORMS College on Artificial Intelligence

Saturday, Oct 19, 2019

Second Floor, Sheraton Grand Seattle Hotel
1400 6th Ave, Seattle, WA 98101

7:00–8:00am **Breakfast (Grand Ballroom D)**

8:00–8:05am **Opening Remarks (Grand Ballroom D)**

8:05–8:55am **Keynote Speech (Grand Ballroom D)**--Dr. Rajiv J. Krishnamurthy, Director of Data Science, Facebook.

9:00–10:20am (Room: Redwood A) Session 1A: Deep Learning Session Chair: Chuanren Liu	9:00–10:20am (Room: Redwood B) Session 1B: Healthcare Session Chair: Qingpeng Zhang
<i>A Deep Learning Approach to Industry Classification (Best Paper Nominee).</i> Xiao Fang, Xiaohang Zhao, Jing He and Olivia Sheng.	<i>An Information Retrieval System for Patient Educational Video Recommendation: A Human Augmented Co-training Approach.</i> Xiao Liu, Anjana Susarla and Rema Padman.
<i>Deep Learning with Interaction Terms: An Experimental Exploration.</i> Yichen Ding, Xun Zhou and Gautam Pant.	<i>Data-driven risk adjustment for hospital performance under comorbidities.</i> Patrick Zoechbauer and Stefan Feuerriegel.
<i>Detecting Fake Reviews in the Cold Start Setting with Deep Learning.</i> Yidong Chai, Weifeng Li, Bin Zhu and Hongyan Liu.	<i>Simple Rules for Predicting Congestion Risk in Queueing Systems: Application to ICUs.</i> Fernanda Bravo, Cynthia Rudin, Yaron Shaposhnik and Yuting Yuan.
<i>Intraday and Daily Cryptocurrency Price Predictions: Leveraging Multivariate Temporal Relationships via Deep Learning.</i> Joseph Dunbar and Olivia Sheng.	<i>Understanding Marijuana Use from Social Media: A Semantic and Sentiment Enriched Multi-task Deep Learning Approach.</i> Jiandong Zhou and Qingpeng Zhang
10:20–10:40am Coffee Break (Grand Ballroom D)	
10:40am–12:00pm (Room: Redwood A) Session 2A: Decision Support with Data Session Chair: Zhiya Zuo	10:40am–12:00pm (Room: Redwood B) Session 2B: Methodology Session Chair: Shawn Mankad
<i>Managing Keywords As Investment: Application of Financial Portfolio Theory in Search Engine Advertising (Best Paper Nominee).</i> Yanwu Yang and Huiran Li.	<i>Causal Inference Via Covariate Balancing.</i> Wangcheng Yan and Wenjun Zhou.
<i>Assessing Experts Decision Quality with Scarce Ground Truth Data.</i> Wanxue Dong, Maytal Saar-Tsechansky and Tomer Geva.	<i>Multi-Armed Bandits with Inference Considerations.</i> Sandeep Kumar Gangarapu, Edward McFowland III and Ravi Bapna.
<i>Quantifying Persuasion in Argumentative Dialogue - Evidence from Debates on Gun Control.</i> Emaad Manzoor, Dokyun Lee, George Chen and Alan Montgomery.	<i>Sequential Anomaly Detection using Inverse Reinforcement Learning.</i> Min-Hwan Oh and Garud Iyengar.
<i>Stock Return Volatility Prediction Using Firm Reports: An Knowledge-Enhanced Word Embedding Approach.</i> Yi Yang, Kunpeng Zhang and Yangyang Fan.	<i>Model-Agnostic Linear Competitors - When Interpretable Models Compete and Collaborate with Black-box Models. (Best Paper Nominee).</i> Hassan Rafique, Tong Wang, Qihang Lin and Arshia Singhani.

12:10–2:00pm **Joint Lunch with the Data Mining Section, Awards, and Poster Slam Session (Grand Ballroom D)**

Poster slam chair: Nachiketa Sahoo

1. <i>Blood Pressure Prediction through Multi-Attention Collaborative Deep Learning.</i> Luo He, Hongyan Liu and Yinghui Yang
2. <i>Reconstructing User Mobility Profile from Online Social Network Data to Support Location-Aware Services</i> Da Xu, Jessica Sheng, Paul Hu and Xiao Fang

3.	<i>A Recurrent Marked Point Process Model for Player Engagement in Video Game.</i> Zisu Wang, Junming Yin, Tianyu Gu and Yong Liu
4.	<i>Diversity Preference-aware Link Recommendation for Online Social Networks.</i> Kexin Yin, Xiao Fang and Bintong Chen
5.	<i>Promoting Civic Awareness and Engagement for Local Communities via Event Detection and Recommendation on Twitter.</i> Yuheng Hu and Yili Hong
6.	<i>Simultaneous Confidence Regions Using Entire Solution Paths.</i> Xiaorui Zhu, Yichen Qin and Peng Wang
7.	<i>How Online Reviews Affect Sales Performance: An Elaboration Likelihood Perspective.</i> Ting-Peng Liang, Yu-Chia Wang and Roger Chiang
8.	<i>Interpretable Forecasting of Customer Visits from Social Media Check-ins.</i> Daniel Tschernutter, Stefan Feuerriegel and William Rand
9.	<i>Do Aggressive Comments Bring Better Questions? Evidence from Stack Overflow</i> Zhaoqi Cheng, Dokyun Lee and Tridas Mukhopadhyay
10.	<i>Motivated or Exhausted: A Data-Driven Study of Taxi Driver Behavior Following Traffic Congestions.</i> Amin Vahedian, Xinyi Li, Haoyi Xiong, Xun Zhou and Amy Colbert
11.	<i>Data-Driven Optimization for Team Formation</i> David Bergman, Teng Huang and John Mathieu
12.	<i>Computer Vision and Metrics Learning for Hypothesis Testing: An Application of Q-Q Plot for Normality Test.</i> Mengke Qiao, Xuanqi Liu and Ke-Wei Huang
13.	<i>Understanding and Predicting Future Research Impact - A Social Capital Perspective.</i> Zhiya Zuo and Kang Zhao
14.	<i>Applying Data Science to Improve Solar Power Production and Reliability.</i> Mauricio Soto, Karen Smiley, Xiao Qu, Travis Galoppo, Rohini Kapoor, Alok Kucheria and Melwin Jose
15.	<i>Modeling Multichannel Digital Advertising Influence in the Presence of Product Adoption.</i> Aslan Lotfi, Xinxue Qu and Zhengrui Jiang
16.	<i>Selecting Featured Images for Restaurant Reviews With Deep Learning: A Transfer Learning Approach.</i> Warut Khern-Am-Nuai, Akarachai Passavoranan and Ekkalak Thongthanomkul

2:00-3:00pm	Joint Keynote —Prof. Mohsen Bayati, Stanford University (Grand Ballroom D)	
3:00–4:00pm	Editors Panel: <i>Publishing Data Science Work in Premier Business Journals: Issues and Best Practices</i> (Grand Ballroom D)	
Moderator:	Balaji Padmanabhan	
Panelists:	Ahmed Abbasi, Gedas Adomavicius, Anandhi Bharadwaj, Maytal Saar-Tsechansky and D.J. Wu	
4:00–4:30pm	Poster Exhibition and Coffee Break (Grand Ballroom D)	
4:30–5:50pm (Room: Redwood A)	4:30–5:50pm (Room: Redwood B)	
Session 3A: Social Networks	Session 3B: Data Collection, Privacy and Fairness	
Session Chair: John Zhang	Session Chair: Dmitry Zhdanov	
<i>Multi-Relational Link Prediction for an Online Health Community.</i> Sulyun Lee, Hankyu Jang, Kang Zhao, Michael S. Amato and Amanda L. Graham.	<i>Controlling Background and Identity Disclosure Risks Using Decision Trees. (Best Paper Nominee).</i> Haifang Yang, Mingzheng Wang, Xiangpei Hu and Xiaobai Li.	
<i>Latent Network-Enhanced Predictive Analytics.</i> Wei Qian, Hongzhe Zhang and Xiao Fang.	<i>Identification and Personalized Protection of Text Data using Shapley Values.</i> Shawn Mankad and Matthew Schneider.	
<i>Node Classification Using Graph Meta-learning.</i> Kunpeng Zhang.	<i>Data Acquisition for Heterogeneous Customer Analytics.</i> Xiaoping Liu and Xiaobai Li	
<i>Link Prediction in Multi-Relational Networks: An Improved Deep Graph Convolution Approach.</i> Yibo Chai, Xi Wang and Danqin Wu.	<i>Ensuring Strategic Best-Response Fairness in Machine Learning: Enhanced Color Blind Algorithm.</i> Hajime Shima, Junpei Komiyama, Warut Khern-Am-Nuai and Karthik Kannan.	

6:00-6:30pm **Business Meeting for the INFORMS College on Artificial Intelligence (Grand Ballroom D)**
All participants of DS 2019 are encouraged to attend.

7:30pm **Reception/Social Event Jointly with CIST 2019**
Tap House Grill, 1506 6th Ave, Seattle, WA 98101 (2 min walk from the conference hotel)