MICHAEL T. LASH

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RESEARCH INTERESTS

Data mining and machine learning, graph-based learning, decision making with machine learning, product recommendation, outcome optimization, causal learning, predictive and prescriptive analytics.

EDUCATION

University of Iowa, Iowa City, Iowa USA *Dec. 2018*
PhD., Computer Science
Advisors: W. Nick Street and Alberto M. Segre

University of Iowa, Iowa City, Iowa USA *May 2017*
M.S., Computer Science

University of Iowa, Iowa City, Iowa USA *May 2014*
B.A., Geoinformatics

PROFESSIONAL EXPERIENCE

Assistant Professor *Aug. 2019 - Present*
Business Analytics Area, School of Business
University of Kansas, Lawrence, KS

Visisting Assistant Professor *Jan. 2019 - May 2019*
Department of Business Analytics, Tippie College of Business
University of Iowa, Iowa City, IA

Primary Instructor/Graduate Assistant *Aug. 2014 - Dec. 2018*
Department of Computer Science/Department of Business Analytics (Tippie College of Business)
University of Iowa, Iowa City, IA

HONORS AND AWARDS

- University of Iowa Graduate College Post-Comprehensive Research Award, 2017.
- University of Iowa Graduate College Summer Fellowship, 2017.
- NSF Graduate Research Fellowship Honorable Mention, 2016.
- John Deere Scholarship, Department of Computer Science, University of Iowa, 2013-2014

PUBLICATIONS

Journal Papers

J.5 **M.T. Lash**, Q. Lin, and W.N. Street, "Causal inverse classification: optimizing individualized multi-valued treatment policies", submitted.

J.4 **M.T. Lash**, J. Slater, P.M. Polgreen, and A.M. Segre, "21 Million Opportunities: A 19 Facility Investigation of Factors Affecting Hand Hygiene Compliance via Linear Predictive Models", *Journal of Healthcare Informatics Research (JHIR)*, accepted.

J.3 **M.T. Lash**, M. Zhang, X. Zhou, C.F. Lynch, and W.N. Street, "Deriving Enhanced Geographical Representations via Similarity-based Spectral Analysis: Predicting Colorectal Cancer Survival Curves in Iowa", *International Journal of Data Mining and Bioinformatics (IJDMB)*, 21(3):183-211, 2019.

J.2 A.K. Gerke, F. Tang, **M.T. Lash**, J. Schappet, E. Phillips and P.M. Polgreen, "A web-based registry for patients with sarcoidosis", *Sarcoidosis vasculitis and diffuse lung diseases (SVDLD)*, 34(1):26-34, 2017.

J.1 **M.T. Lash** and K. Zhao, "Early predictions of movie success: The who, what, and when of profitability", *Journal of Management Information Systems (JMIS)*, 33(3):874-903, 2016.

Conference and Workshop Papers (Peer Reviewed)

C.5 **M.T. Lash**, Y. Sun, X. Zhou, C.F. Lynch, and W.N. Street, "Learning Rich Geographical Representations: Predicting Colorectal Cancer Survival in the State of Iowa", In *Bioinformatics and Biomedicine (BIBM), 2017 IEEE International Conference on*, pp. 778-785, 2017.

C.4 **M.T. Lash**, Q. Lin, W.N. Street and J.G. Robinson, "A budget-constrained inverse classification framework for smooth classifiers", In *Data Mining Workshops (ICDMW), 2017 IEEE International Conference on*, pp. 1184-1193, 2017.

C.3 **M.T. Lash**, J. Slater, P.M. Polgreen, and A.M. Segre, "A Large-Scale Exploration of Factors Affecting Hand Hygiene Compliance Using Linear Predictive Models", in *Healthcare Informatics (ICHI), 2017 International Conference on*, pp. 66-73, 2017.

C.2 **M.T. Lash**, Q. Lin, W.N. Street, J.G. Robinson and J. Ohlmann, "Generalized Inverse Classification", in *Proceedings of the 2017 SIAM International Conference on Data Mining (SDM)*, pp. 162-170, 2017.

C.1 **M.T. Lash**, S. Fu, S. Wang and K. Zhao, "Early prediction of movie success–What, who, and when", in *Proceedings of the 2015 International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction (SBP)*, 2015.

TALKS AND POSTERS

- "Optimizing Patient Outcomes via Inverse Classification". INFORMS Annual Meeting, Phoenix, AZ, November, 2018. *Invited Talk.*
- "Data, Decisions, and Machine Learning: Optimizing Outcomes via Inverse Classification". University of Iowa Informatics Day, Iowa City, IA, November, 2017. *Invited Talk.*
- "Data, Decisions, and Machine Learning: Optimizing Outcomes via Inverse Classification". University of Iowa Dept. of Comp. Sci. Graduate Research Symposium, Iowa City, IA, November, 2017. *Invited Talk.*
- "Learning Rich Geographical Representations: Predicting Colorectal Cancer Survival in the State of Iowa". 2017 IEEE International Conference on Bioinformatics and Biomedicine, Kansas City, MO, November, 2017. *Talk.*
- "Prophit: Inverse Classification via Causal Deep Learning". INFORMS Annual Meeting, Houston, TX, October, 2017. *Invited Talk.*
- "A Large-Scale Exploration of Factors Affecting Hand Hygiene Compliance Using Linear Predictive Models". 2017 IEEE International Conference on Healthcare Informatics, Park City, UT, August, 2017. *Talk.*
- "Generalized Inverse Classification". 2017 SIAM International Conference on Data Mining, Houston, TX, April, 2017. *Talk, Poster.*
- "Generalized Inverse Classification". INFORMS Annual Meeting, Nashville, TN, November, 2016. *Invited Talk.*
- "Leveraging Longitudinal Healthcare Data For Inverse Classification". INFORMS Annual Meeting, Nashville, TN, November, 2016. *Invited Talk.*
- "Reducing Patient Risk through Inverse Classification: An SVM-based Method". INFORMS Annual Meeting, Philadelphia, PA, November, 2015. *Invited Talk.*
- "Early prediction of movie success–What, who, and when". SBP 2015, Washington D.C., March, 2015. *Poster.*

- "Early Prediction of Movie Success-A Social Network Perspective". INFORMS Annual Meeting, San Francisco, CA, November, 2014. *Talk.*
- "Early Prediction of Movie Success-A Social Network Perspective". Data Mining and Analytics Workshop, INFORMS Annual Meeting, San Francisco, CA, October, 2014. *Talk.*

TEACHING

School of Business, *University of Kansas*

- BSAN:326 (Undergrad) Database Management Systems (2 sections) Spr'20
  Sect. avg. median eval score: *Forthcoming*

Tippie College of Business, *University of Iowa*

- MSCI:6050 (Masters) Data Management and Visual Analytics Spr'19
  Sect. avg. median eval score: 5.0 (out of 6)
- MSCI:6100 (Masters) Text Analytics Spr'19
  Sect. avg. median eval score: 5.8 (out of 6)

Department of Computer Scinece, *University of Iowa*

- CS:3210 (UG/Grad) Programming Languages and Tools Fall'18
  Sect. avg. median eval score: 5.8 (out of 6)
- CS:3210 (UG/Grad) Programming Languages and Tools Spr'18
  Sect. avg. median eval score: 5.0 (out of 6)

SELECTED MEDIA

- "It's hard to predict a movie's profitability, but you learn some lessons along the way", The Washington Post, May 16, 2016
- "UI researchers try to predict box office success", The Des Moines Register, February 26, 2016
- "The AI that could change Hollywood", BBC, February 24, 2016
- "Batman V Superman: Dawn of Justice predicted to be big flop; here's why movie has only 32% chances of making profit", International Business Times, February 18, 2016
- "Is Batman v Superman set to be a flop? AI Predicts the superhero movie has only a 32% chance of making a profit", The Daily Mail (UK), February 16, 2016
- "Algorithm predicts success rate for Batman V. Superman movie, amongst others", redOrbit, February 13, 2016
- "Predicting box office boffo or bomb", Iowa Now, February 10, 2016
- "An artificial intelligence project to predict the profitability of new movies", The Stack, February 1, 2016
- "Box Office Predictions From Robots Find A-List Actors Hurt Film Profits", The International Business Times, June 24, 2015
- "Data Mining Reveals the Surprising Factors Behind Movie Success", MIT Technology Review, June 22, 2015
- "Science Explains Why Some Movies Make Millions (While Others Flop)", Mental Floss, June 24, 2015
- "Data-Mining zeigt Erfolgsfaktoren fur Kinofilme", heise online (Germany), June 24, 2015
- "Algoritmo "desvenda" o que leva um filme a fazer sucesso e dar lucro", Gazeta do Povo (Portugal), June 26, 2015
- "Analise de big data desvenda o segredo dos filmes de sucesso", Estadao (Brazil), June 22, 2015

PROFESSIONAL SERVICE

Organizational

- Co- session chair for *Data Mining and Business Analytics*, 2019 INFORMS Annual Meeting, Seattle, WA, October, 2019.
- Session chair for *Decision Making and Data Mining*, 2018 INFORMS Annual Meeting, Phoenix, AZ, November, 2018.
- Session chair for the *5th International Workshop on Data Science and Big Data Analytics*, ICDM '17, New Orleans, LA, November, 2017.
- Session chair for *Causal Data Mining*, 2017 INFORMS Annual Meeting, Houston, TX, October, 2017.
- Session chair for *Data Mining Innovations in Healthcare*, 2016 INFORMS Annual Meeting, Nashville, TN, November, 2016.
- Session chair for *2014 INFORMS Workshop on Data Mining and Analytics* (INFORMS DMA '14). 2014 INFORMS Annual Meeting, San Francisco, CA, November, 2014.

Program Committee

- 3rd INFORMS Workshop on Data Science 2019 (DS'19).
- Data Science and Big Data Analytics 2018 (DSBDA'18) at ICDMW'18.

Reviewer/Referee

- Journal of Management Information Systems (JMIS): 2017, 2018, 2019.
- Decision Sciences Journal (DSJ): 2017, 2018.
- Annals of Operations Research (ANOR): 2016, 2019.
- Public Library of Science (PLOS One): 2018, 2019.
- International Journal of Computers in Healthcare (IJCIH): 2017.
- International Journal of Electronic Commerce (IJEC): 2016.
- IEEE International Conference on Data Mining (ICDM): 2017, 2018.
- International Conference on Information Systems (ICIS): 2019.
- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD): 2015, 2016, 2018.
- AAAI Conference on Artificial Intelligence (AAAI): 2019.
- IEEE International Conference on Information and Knowledge Management (CIKM): 2017.
- International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction (SBP): 2015.
- Annual Workshop on Information Technologies and Systems (WITS): 2014.
- INFORMS Workshop on Data Mining and Analytics (INFORMS DMA): 2014.

Affiliations

INFORMS, SIAM, ACM, IEEE