Tom Hartvigsen

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Research interests: Representation Learning, Recurrent Neural Networks, Machine Learning for Healthcare.

Education

Worcester Polytechnic Institute, *Worcester, MA*

Ph.D., Data Science — August 2016-Present
Advisors: Elke Rundensteiner, Xiangnan Kong
Thesis: *Recurrent Models for Irregular Time Series.*

M.S., Data Science — Dec 2018
Advisors: Elke Rundensteiner, Xiangnan Kong
Thesis: *Adaptive-Halting Policy Network for Early Classification.*

SUNY Geneseo, *Geneseo, NY*

B.A., Applied Mathematics — August 2012-May 2016
BioMathematics minor
Advisors: Chris Leary, Kirk Anne

Publications

Peer-Reviewed Conference Proceedings

Adaptive-Halting Policy Network for Early Classification.
Thomas Hartvigsen, Cansu Sen, Xiangnan Kong, Elke Rundensteiner.
ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2019.

Comparing General and Locally-Learned Word Embeddings for Clinical Text Mining.
Jidapa Thadajarassiri, Cansu Sen, Thomas Hartvigsen, Xiangnan Kong, Elke Rundensteiner.
IEEE International Conference on Biomedical and Health Informatics (BHI), 2019.

Early Prediction of MRSA Infections using Electronic Health Records.
Thomas Hartvigsen, Cansu Sen, Sarah Brownell, Erin Teeple, Xiangnan Kong, Elke Rundensteiner.
International Conference on Health Informatics (HEALTHINF), 2018. Short-listed for Best Student Paper.

CREST - Risk Prediction for Clostridium Difficile Infection Using Multimodal Data Mining.
Cansu Sen, Thomas Hartvigsen, Kajal Claypool, Elke Rundensteiner.
European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), 2017.

Peer-Reviewed Journal Proceedings

Detecting MRSA Infections by Fusing Structured and Unstructured Electronic Health Record Data.
Thomas Hartvigsen, Cansu Sen, Elke Rundensteiner.
To appear in Communications in Computer and Information Science.

Manuscripts Under Single-Blind Review

Predicting Hospital-Acquired Clostridium Difficile Infection Using Electronic Health Record Information.
Erin Teeple, Thomas Hartvigsen, Cansu Sen, Elke Rundensteiner.

Professional Experience

Machine Learning Research Intern, UMMS, Mentored by Dr. Jomol Matthew — Sep 2018 - May 2019
NSF REU Intern, University of Arizona, Mentored by Prof. Shirley Papuga — Summer 2015
Research Assistant, SUNY Geneseo, Mentored by Prof. Chris Leary — Sep 2014 - May 2016

Selected Awards

KDD 2019 Student Travel Grant, ACM — August 2019
WPI Graduate Student Travel Grant — 2019
Best Poster, Graduate Research Innovation and Exchange, WPI — 2019
People's Choice Poster Award, Graduate Research Innovation and Exchange, WPI — 2018
WPI Graduate Student Travel Grant — 2018
People's Choice Poster Award, Graduate Research Innovation and Exchange, WPI — 2017
WPI Graduate Student Travel Grant — 2017
GAANN Ph.D. Fellowship, US Dept. of Ed. — 2016-2021

Teaching

NSF REU primary mentor, WPI. — Summers 2017-19

Students: Y. Klindziuk, D. Johnston, L. Nazarov, J. Friend, A. Hauck, S. Brownell, S. Tocci.

Outcomes: Three papers from two summers of advising – MIT URTC (2) HEALTHINF (1).

Teaching Assistant, SUNY Geneseo, Modeling Bio. Systems (2x) and BioStats (1x). — Jan 2015-May 2016

Modeling Biological Systems, SUNY Geneseo — Spring 2016

Guest lecturer: taught Percolation Models, created and led in-class exercise using R.