



2018 AAAI Joint Workshop on Health Intelligence (W3PHIAI 2018)

Friday, February 2 and Saturday, February 3, 2018 in Marlborough A on the 2nd floor of the Hilton New Orleans Riverside hotel.

Workshop Programme:

Friday February 2nd

8:50am - 9:00am

Opening Remarks (Martin Michalowski & Arash Shaban-Nejad)

9:00am - 9:50am

Keynote Speaker: Noémie Elhadad, PhD (Columbia University)

Title: When Patients Tell You Who They Are: Learning From Patients Experiences

9:50am - 10:30am (20 minutes per paper)

Session 1: Population Health I (Session Chair: Arash Shaban-Nejad)

1. Using digital purchasing data to generate public health evidence: Learning unhealthy beverage demand from grocery transaction data
Hiroshi Mamiya, Xing Han, Lu Xing, Yu Ma, and David L. Buckeridge
2. Detecting Personal Experience Tweets for Health Surveillance Using Word Embeddings and Convolutional Recurrent Neural Networks
Shichao Feng, Keyuan Jiang, Jiyun Li, and Ricardo A. Calix

10:30am - 11:00am

Coffee Break

11:00am - 12:00pm (20 minutes per paper)

Session 2: Population Health II (Session Chair: David Buckeridge)

1. Preventing infectious disease in dynamic populations under uncertainty
Bryan Wilder, Sze-Chuan Suen, and Milind Tambe
2. Multi-Label Classification of Patient Notes a Case Study on ICD Code Assignment
Tal Baumel, Jumana Nassour-Kassis, Raphael Cohen, Michael Elhadad, Noemie Elhadad
3. Integrating Environmental Data, Citizen Science and Personalized Predictive Modeling to support Public Health in Cities: the PULSE WebGIS
Enea Parimbelli, Daniele Pala, Riccardo Bellazzi, Cecilia Vera-Munoz and Vittorio Casella

12:00pm – 2:00 pm

Lunch (on your own)

2:00 pm - 2:50 pm

Keynote Speaker: Amit Sheth, PhD (Knoesis - Wright State University)

Title: *Augmented Personalized Health: using AI techniques on semantically integrated multimodal data for patient empowered health management strategies*

2:30pm - 3:30pm (20 minutes per paper)

Session 3: Personalization (Session Chair: Martin Michalowski)

1. Personalized Healthcare for Patients Access to Price Transparency
William Cheetham
2. Balancing Lexicographic Fairness and a Utilitarian Objective with Application to Kidney Exchange
Duncan McElfresh and John Dickerson

3:30pm - 4:00pm

Coffee Break

4:00 pm - 4:40 pm (20 minutes per paper)

Session 4: Recommendation (Session Chair: Byron Wallace)

1. Diabetic Retinopathy Detection via Deep Convolutional Networks for Discriminative Localization and Visual Explanation
Zhiguang Wang and Jianbo Yang
2. Personalized Medication Dosing Using Volatile Data Streams
Mohammad Ghassemi, Tuka Alhanai, Michael Westover, Roger Mark and Shamim Nemati

4:45 pm - 5:00 pm

Closing remark -Day 1

Saturday February 3rd

9:00 am - 9:50am

Keynote Speaker: Nitesh Chawla, PhD (University of Notre Dame)

Title: Being a Dataologist: Data will see you now

9:50am – 10:30am (20 minutes per paper)

Session 5: Learning (Session Chair: Arash Shaban-Nejad)

1. Using Machine Learning and Urine Cytology for Bladder Cancer Prescreening and Patient Stratification
Will Tun, Ognjen Arandjelovic and Peter Caie
2. Learning disentangled representation from 12-lead electrograms: application in localizing the origin of Ventricular Tachycardia
Prashna Gyawali, Milan Horacek, John Sapp and Linwei Wang

10:30am - 11:00am

Coffee Break

11:00am – 12:00am (15 minutes per short paper)

Session 6: Short papers (Session Chair: Michael J. Paul)

1. Towards an Argumentation System for Supporting Patients in Self-Managing their Chronic Conditions
Nadin Kokciyan, Isabel Sassoon, Anthony P. Young, Martin Chapman, Talya Porat, Mark Ashworth, Vasa Curcin, Sanjay Modgil, Simon Parsons and Elizabeth Sklar
2. Discovering the Value of the Omaha System for Knowledge Representation and Data Extraction in Health Intelligence
Ragnhildur Bjarnadottir, Sasank Maganti, Mary Jo Kreitzer, Michelle A Mathiason, Robert A Giaquinto and Karen A Monsen
3. Topical Phrase Extraction from Clinical Reports by Incorporating both Local and Global Context
Gabriele Pergola, Yulan He and David Lowe
4. Assistive AI for Coping with Memory Loss
Libby Ferland, Ziwei Li, Shridhar Sukhani, Joan Zheng, Luyang Zhao and Maria Gini

12:00pm - 2:00pm

Lunch (on your own)

2:00 pm - 3:30 pm (20 minutes per paper)

Session 7: Prediction (Session Chair: Martin Michalowski)

1. A Framework for Utilizing Lab Test Results for Clinical Prediction of ICU Patients
Mohammad Masud and Muhsin Cheratta
2. A Predictive Analytics Methodology to Assess and Optimize Readmission Risk in Heart Failure Patients
Pavitra Krishnaswamy, Savitha Ramasamy, Abdullah Al-Dujaili, Srinath Sridharan, Geraldine Goh, Shao Chuen Tong, Khin Chaw Yu Aung, Gerard Leong Kui Toh, Michael Ross Macdonald, Sheldon Lee Shao Guang, Yan Cao, Suresh Sundaram and Wai L. Chow
3. Feature Extraction from Electronic Health Records of Diabetic Nephropathy Patients with Convolutional Autoencoder
Takayuki Katsuki, Masaki Ono, Akira Koseki, Michiharu Kudo, Kyoichi Haida, Jun Kuroda, Masaki Makino, Ryosuke Yanagiya and Atsushi Suzuki
4. Graphically representing child-robot interaction proxemics
Marie Manner, Maria Gini and Jed Elison

3:30 pm - 04:00 pm

Coffee Break

4:00 pm - 4:30 pm (15 minutes for short papers)

Session 7: Learning 2 (Session Chair: Michael J. Paul)

1. Learning Bayesian Network Structure by Self-Generating Prior Information: The Two-step Clustering-based Strategy (Short Presentation)
Yikun Zhang, Jiming Liu and Yang Liu
2. Utilizing Social Media to Combat Opioid Addition Epidemic: Automatic Detection of Opioid Users from Twitter (Short presentation)
Yanfang Ye, Yiming Zhang, Yujie Fan and Xin Li

4:30 pm - 4:40 pm

Closing remarks / discussion