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## AI + X

1. *Racial Discrimination in Policing: 5 Problems in 5 Minutes*, Emma Pierson (Stanford U.)
2. *Pulse Wave Diagnosis*, Ovidiu Calin (EMU)
3. *What is Normal and What is Strange in a Knowledge Graph: Unified Characterization via Inductive Summarization*, Caleb Belth (UM, CSE), Jilles Vreeken (Helmholtz Center for Information Security), Danai Koutra (UM, CSE)
4. *Wiggum: Simpson's Paradox Inspired Fairness Forensics*, Sarah M. Brown (Brown U.)
5. *Network Analysis with Negative Links*, Tyler Derr (MSU)
6. *Smart Roles: Inferring Professional Roles in Email Networks*, Di Jin\* (UM, CSE), Mark Heimann (UM, CSE)\*, Tara Safavi (UM, CSE), Mengdi Wang (U. of Pittsburgh), Wei Lee (Trove AI), Lindsay Snider (Trove AI), Danai Koutra (UM, CSE)
7. *Interactive Refactoring Documentation Bot*, Soumaya Rebai, Marouane Kessentini (UM Dearborn)
8. *Method Level Bug Localization Using Hybrid Multi-objective Search*, Rafi Almhana, Marouane Kessentini (UM Dearborn)
9. *RefBot: Intelligent and Interactive Software Refactoring Bot*, Vahid Alizadeh (UM), Marouane Kessentini (UM Dearborn)

## MACHINE LEARNING

10. *Democratizing EHR Analyses - A Comprehensive, Generalizable Pipeline for Learning from Clinical Data*, Shengpu Tang, Parmida Davarmanesh, Yanmeng Song, Michael W. Sjoding, Danai Koutra, Jenna Wiens (UM, CSE)
11. *Reinforcement Learning for Blood Glucose Control*, Ian Fox (UM, CSE), Joyce Lee (UM, Pediatrics and Communicable Diseases), Rodica Busui (UM, Internal Medicine, Division of Metabolism, Endocrinology and Diabetes), Jenna Wiens (UM, CSE)
12. *Ranking Policy Gradient*, Kaixiang Lin, Jiayu Zhou (MSU)
13. *Machine Learning for the Real World: Provably Robust Extrapolation*, Anqi Liu (Caltech)
14. *Data efficient individual treatment effect estimation*, Maggie Makar (CSAIL, MIT)
15. *Multimodal Political Deception Detection*, Manvi Kamboj, Christian Hessler, Priyanka Asnani, Kais Riani, Mohamed Abouelenien (UM Dearborn)
16. *Graph Neural Networks for Social Recommendation*, Wenqi Fan (City U. of Hong Kong), Yao Ma (MSU), Qing Li (The Hong Kong Polytechnic U.), Yuan He (JD.com), Eric Zhao (JD.com), Jiliang Tang (MSU), Dawei Yin (JD.com)
17. *Spatial Semantic Representation Helps Visual Reasoning*, Chen Zheng, Quan Guo, Parisa Kordjamshidi (MSU)

18. *Multi-Armed Bandit Problem: A New Belief Resilience Algorithm*, Qianbo Yin, Nick Hollman (UM, Weinberg Institute for Cognitive Science)
19. *Cross-domain Recommender Systems: Cross-domain Recommendation in Signed Networks*, Jamell Dacon (MSU)
20. *A Multi-Modal Approach to Diagnosing Acute Cardiopulmonary Conditions*, Sarah Jabbour (UM), David Fouhey (UM), Michael W. Sjoding (UM, Michigan Center for Integrated Research in Critical Care), Jenna Wiens (UM, CSE)
21. *Discovery of Promising Salt Hydrates for Thermal Energy Storage Using High Throughput Computation and Machine Learning*, Steven Kiyabu (UM, ME), Donald J. Siegel (UM, ME/Applied Physics)
22. *Simultaneous Refactoring and Regression Testing: A Multitasking Approach*, Jeffrey J. Yackley, Marouane Kessentini, Bruce R. Maxim (UM Dearborn)
23. *Less is More: From Multi-Objective to Mono-Objective Refactoring via Developers Knowledge Extraction*, Vahid Alizadeh, Mohamed Housseem Fehri, Marouane Kessentini (UM Dearborn)
24. *Predicting optimal value functions by interpolating reward functions in scalarized multi-objective reinforcement learning*, Arpan Kusari (Ford Motor Company), Jonathan P. How (MIT)
25. *Data-driven Discovery of Materials for Energy Storage*, Alauddin Ahmed, Donald J. Siegel (UM, ME)
26. *Improving the refactoring recommendations using predictive models of bugs and antipatterns detection results*, Chaima Abid, Marouane Kessentini, Bruce Maxim (UM Dearborn)
27. *The DREAM Preterm Birth Prediction Challenge: Toward optimal approaches to predict clinical outcomes from gene expression short time-series data*, Adi L. Tarca, Marina Sirota, Roberto Romero, Bogdan Done, Gaia Andreoletti, Nima Aghaeepour, James Costello, Gustavo Stolovitzky (Wayne State)
28. *Efficiently Learning to Perform Household Tasks with Object-Oriented Exploration*, Wilka Carvalho (UM, CSE), Kimin Lee (Korea Advanced Institute of Science and Technology), Richard L. Lewis (UM, Psychology), Satinder Singh (UM, DeepMind), Honglak Lee (UM, Google Brain)
29. *HarDNet: A Low Memory Traffic Network*, Ping Chao (UM), Youn-Long Lin (National Tsing Hua U.)

## COMPUTER VISION

30. *Identifying visible actions in lifestyle vlogs*, Oana Ignat (UM, CSE), Laura Burdick (UM, CSE), Jia Deng (Princeton U.), Rada Mihalcea (UM, CSE)
31. *Unified Vision-Language Pre-Training for Image Captioning and VQA*, Luowei Zhou, Hamid Palangi, Lei Zhang, Houdong Hu, Jason J. Corso, Jianfeng Gao (UM, EECS)

32. *Visual Deprojection: Probabilistic Recovery of Collapsed Image Dimensions*, Guha Balakrishnan, Adrian V. Dalca, Amy Zhao, Fredo Durand, William T. Freeman (MIT)

33. *Temporal Upsampling and Aggregation for Smooth Video Inpainting*, Ryan Szeto (UM, EECS), Mostafa El-Khamy (Samsung Semiconductor Inc.), Jason Corso (UM, EECS)

34. *Nocaps: Novel Object Captioning at Scale*, Harsh Agrawal\* (Georgia Tech), Karan Desai\* (UM, CSE), Yufei Wang (Macquarie U.), Xinlei Chen (Facebook AI Research), Rishabh Jain (Georgia Tech), Mark Johnson (Macquarie U.), Dhruv Batra (Georgia Tech, Facebook AI Research), Devi Parikh (Georgia Tech, Facebook AI Research), Stefan Lee (Oregon State U.), Peter Anderson (Georgia Tech)

35. *Multimodal Driver's Alertness Detection*, Kais Riani, Andrew Gasiorowski, Mohamed Abouelenien (UM Dearborn)

## CORE AI

36. *From Ontologies to Learning-Based Programs*, Quan Guo (MSU), Andrzej Uszok (IHMC), Yue Zhang (MSU), Parisa Kordjamshidi (MSU)

37. *Enhancing Transparency in Human-autonomy Teaming via the Option-centric Rationale Display*, Ruikun Luo (UM, Robotics Institute), Na Du (UM, IOE), Kevin Y. Huang (UM, IOE), Xi Jessie Yang (UM, IOE)

## SPEECH AND LANGUAGE

38. *Predictions of a Model of Language Comprehension Compared to Brain Data*, Peter Lindes (UM, CSE)

39. *HEIDL: Learning Linguistic Expressions with Deep Learning and Human-in-the-Loop*, Yiwei Yang (UM), Eser Kandogan (IBM Research), Yunyao Li (IBM Research), Walter S. Lasecki (UM, CSE), Prithviraj Senn (IBM Research)

40. *Low-Resource Languages: A Challenge for Natural Language Processing*, Katharina Kann (NYU)

41. *Analyzing the Surprising Variability in Word Embedding Stability Across Languages*, Laura Burdick, Jonathan K. Kummerfeld, Rada Mihalcea (UM, CSE)

42. *Sound of Text*, Allie Lahnala, Jonathan K. Kummerfeld, Anil Çamcı, Rada Mihalcea (UM, CSE)

43. *Exploring the Role of Personalized Embeddings for Next Word Prediction*, Charles Welch, Jonathan K. Kummerfeld, Verónica Pérez-Rosas, Rada Mihalcea (UM, CSE)

44. *Identifying Mood Episodes Using Dialogue Features from Clinical Interviews*, Zakaria Aldeneh (UM, CSE), Mimansa Jaiswal (UM, CSE), Michael Picheny (IBM), Melvin McInnis (UM, Psychiatry), Emily Mower Provost (UM, CSE)

45. *Analysis of Clinician Research Notes in Predicting Future Interventions For Bipolar Patients*, Kritika Versha (UM, Psychiatry), Melvin McInnis (UM, Psychiatry), Rada Mihalcea (UM, CSE)

46. *The Applicability of Embeddings to Location Time Series Data*, Laura Biester, Carmen Banea, Rada Mihalcea (UM, CSE)

47. *Perceptions of Social Roles Across Cultures*, MeiXing Dong, David Jurgens, Carmen Banea, Rada Mihalcea (UM, CSE)

48. *Into the Wild: Transitioning from Recognizing Mood in Clinical Interactions to Personal Conversations for Individuals with Bipolar Disorder*, Katie Matton (UM, CSE), Melvin G. McInnis (UM, Psychiatry), Emily Mower Provost (UM, CSE)

49. *Language Generation for Enhanced Motivational Interviewing*, Siqi Shen, Verónica Pérez-Rosas, Charlie Welch, Rada Mihalcea (UM, CSE)

50. *LifeQA: A Real-life Dataset for Video Question Answering*, Mahmoud Azab (UM, CSE), Santiago Castro (UM, CSE), Daniel D'Souza (UM, CSE), Jonathan Stroud (UM, CSE), Ruoyao Wang (UM, CSE), Cristina Noujaim (UM, CSE), Yu-Wei Chao (UM, CSE), Shubham Dash (UM, CSE), Jia Deng (Princeton U.), Rada Mihalcea (UM, CSE)

51. *Natural Language Processing Approaches to Detect Mentions of Drugs and Adverse Events in Tweets*, Deahan Yu, Xinyan Zhao, V. G. Vinod Vydiswaran (UM, SI)

52. *Question Generation for Counseling Skill Training*, Christy Li, Yinwei Dai, Verónica Pérez-Rosas, Charlie Welch, Rada Mihalcea (UM, CSE)

## ROBOTICS

53. *PredNet-based Unsupervised Pedestrian Pose Prediction*, Xiaoxiao Du (UM, FCAV), Ram Vasudevan (UM, ME), Matthew Johnson-Roberson (UM, NAME)

54. *Inferring Obstacles and Path Validity from Visibility-Constrained Demonstrations*, Craig Knuth (UM, Robotics Institute), Glen Chou (UM, EECS), Necmiye Ozay (UM, EECS), Dmitry Berenson (UM, EECS)

55. *Learning Parametric Constraints in High Dimensions from Demonstrations*, Glen Chou, Necmiye Ozay, Dmitry Berenson (UM, EECS)