

AI Symposium Posters



The AI + Health-related projects are starred.*
The invited speakers are underlined.

Computer Vision

1. *HyperCon: Image-to-Video Model Transfer for Video-To-Video Translation Tasks*, Ryan Szeto (University of Michigan), Mostafa El-Khamy (Samsung Semiconductor Inc.), Jungwon Lee (Samsung Semiconductor Inc.), Jason J. Corso (University of Michigan)
2. *Fill-in-the-blanks as a Challenging Video Understanding Evaluation Framework*, Ruoyao Wang (University of Michigan), Santiago Castro (University of Michigan), Pingxuan Huang (University of Michigan), Nan Liu (University of Michigan), Jonathan Stroud (University of Michigan), Rada Mihalcea (University of Michigan)
3. *Duration-informed Temporal Localization of Narrated Actions in Vlogs*, Oana Ignat (University of Michigan), Santiago Castro (University of Michigan), Yuhang Zhou (University of Michigan), Jiajun Bao (University of Michigan), Dandan Shan (University of Michigan), Rada Mihalcea (University of Michigan)
4. *Deep Learning Applied to Chest X-rays: Exploiting and Preventing Shortcuts*, Sarah Jabbour (University of Michigan), David Fouhey (University of Michigan), Ella Kazerooni (University of Michigan), Michael W. Sjoding (University of Michigan), Jenna Wiens (University of Michigan)*
5. *DermaDetect: A Novel Computer Vision Model for an Accurate Diagnosis of Skin Conditions and Rashes*, Siddharth Sharma (BASIS Independent Silicon Valley, Stanford)*
6. *Understanding Human Hands in Contact at Internet Scale*, Dandan Shan (University of Michigan), Jiaqi Geng (University of Michigan), Michelle Shu (Johns Hopkins University), David F. Fouhey (University of Michigan)

Machine Learning

7. *Learning When-to-Treat Policies*, Xinkun Nie (Stanford University), Emma Brunskill (Stanford University), Stefan Wager (Stanford University)*

8. *Defining Admissible Rewards for High-Confidence Policy Evaluation in Batch Reinforcement Learning*, Niranjani Prasad (Princeton University), Barbara E. Engelhardt (Princeton University), Finale Doshi-Velez (Harvard University)
9. *Treatment-Effect Estimation from Well-Curated to Less Resourced Populations with HIV*, Sonali Parbhoo (Harvard University), Mario Wieser (University of Basel), Volker Roth (University of Basel), Finale Doshi-Velez (Harvard University)*
10. *Emergent Communication in Embodied Multi-Agent Populations*, Kalesha Bullard (Facebook Artificial Intelligence Research)
11. *Understanding the Role of AI-Enabled Healthcare in the Global South*, Chinasa T. Okolo (Cornell University)*
12. *Clinician-in-the-loop Decision Making: Reinforcement Learning with Near-Optimal Set-Valued Policies*, Shengpu Tang (University of Michigan), Aditya Modi (University of Michigan), Michael W. Sjoding (University of Michigan), Jenna Wiens (University of Michigan)*
13. *Reinforcement Learning with Serial CT to Improve the Diagnosis of Lung Cancer in Screening*, Yifan Wang (University of Michigan), Chuan Zhou (University of Michigan), Lei Ying (University of Michigan)*
14. *Validating Dynamicity in Resting State fMRI with Activation-Informed Temporal Segmentation*, Marlina Duda (University of Michigan), Danai Koutra (University of Michigan), Chandra Sripada (University of Michigan)*
15. *Automatic Design of Optical Multilayer Films with Deep Reinforcement Learning*, Haozhu Wang (University of Michigan), Zeyu Zheng (University of Michigan), Chengang Ji (University of Michigan), L. Jay Guo (University of Michigan)
16. *Predicting Hospital Admission from the Moment of Emergency Department Arrival*, Ashley Hall (University of Michigan), Zachary J. Jarou (St. Joseph Mercy Ann Arbor)*
17. *Study of Artificial Intelligence Models Applied to the Analysis of Electroencephalograms in Alzheimer's Disease*, Paola Martínez-Arias (Yachay Tech University), Rigoberto Fonseca-Delgado (INAOE), Graciela Salum (Yachay Tech University)*
18. *Estimating Calibrated Individualized Survival Curves with Deep Learning*, Fahad Kamran (University of Michigan), Jenna Wiens (University of Michigan)*
19. *GEM-ML: AI-based design of combination therapies*, Carolina Chung (University of Michigan), Harkirat Singh Arora (Indian Institute of Technology Roorkee), Sriram Chandrasekaran (University of Michigan)*

20. *PharmMT: A Neural Machine Translation Approach to Simplify Prescription Directions*, Jiazhao Li (University of Michigan), Corey Lester (University of Michigan), Xinyan Zhao (University of Michigan), Yun Jiang (University of Michigan), V.G.Vinod Vydiswaran (University of Michigan), Yuting Ding (University of Michigan)*
21. *Multimodal Monitoring of Driver's Alertness*, Michalis Papakostas (University of Michigan), Kapotaksha Das (University of Michigan), Kais Riani (University of Michigan), Mohamed Abouelenien (University of Michigan), Mihai Burzo (University of Michigan), Rada Mihalcea (University of Michigan)
22. *SquiggleNet: Accelerated Pathogen Diagnosis with Sequencing Signal Classification*, Yuwei Bao (University of Michigan), Joshua Welch (University of Michigan)*
23. *A Hybrid Bayesian Network Model for Prioritizing Hospital Audits within an Arthroplasty Quality Improvement Collaborative*, Richard E. Hughes (University of Michigan), Eric Cornish (MidMichigan Health), Aram Simonyan (National Academy of Sciences of Armenia), Huiyong Zheng (University of Michigan), Brian Hallstrom (University of Michigan)*
24. *COVID-19 Outbreak Prediction and Analysis*, Rohan Sukumaran (PathCheck), Parth Patwa (PathCheck), Sethu Raman (PathCheck), Sheshank Shankar (PathCheck), Joseph Bae (PathCheck, Stony Brooks Medicine), Rishank Kanaparati (PathCheck), Yash Mathur (PathCheck), Abhishek Singh (PathCheck, Massachusetts Institute of Technology), Ayush Chopra (PathCheck, Massachusetts Institute of Technology), Sunny Kang (PathCheck), Ramesh Raskar (PathCheck, Massachusetts Institute of Technology)*
25. *Comparative Parameters for Formation of Protein Complexes*, Minjeong Cha (University of Michigan), Emine Sumeyra Turali Emre (University of Michigan), Xiongye Xiao (University of Southern California), J. Scott VanEpps (University of Michigan), Angela Violi (University of Michigan), Paul Bogdan (University of Southern California), Nicholas A. Kotov (University of Michigan)*
26. *Genetic Inheritance Pattern Prediction*, Sahas Dendukuri (University of Michigan), Andrew DeOrio (University of Michigan)*
27. *A Chemically Meaningful Coarse-grained Representation of Biological Molecules for Machine Learning Applications*, Jacob Saldinger (University of Michigan), Paolo Elvati (University of Michigan), Angela Violi (University of Michigan)*
28. *Modeling and Understanding Noisy RSSI-BLE Signals and Other Mobile Sensor Data for Digital Contact Tracing*, Sheshank Shankar (PathCheck Foundation), Ayush Chopra (PathCheck Foundation), Rishank Kanaparti (PathCheck Foundation), Myungsun Kang (PathCheck Foundation), Abhishek Singh (PathCheck Foundation), Rohan Sukumaran

(PathCheck Foundation), Parth Patwa (PathCheck Foundation), Kevin McPherson (PathCheck Foundation), Ramesh Raskar (PathCheck Foundation)*

29. *A Hierarchical Expert-Guided Machine Learning Framework for Clinical Decision Support Systems: An Application to Traumatic Brain Injury Prognostication*, Negar Farzaneh (University of Michigan), Craig A. Williamson (University of Michigan), Jonathan Gryak (University of Michigan), Kayvan Najarian (University of Michigan)*
30. *The 7 Habits of Effective Predictive Model Implementations: Lessons from the Clinical Trenches*, Karandeep Singh (University of Michigan), Sean Meyer (University of Michigan), Michael Burns (University of Michigan), Jeremy B. Sussman (University of Michigan), Akbar K. Waljee (University of Michigan), Brahmajee K. Nallamothu (University of Michigan)*
31. *Building a Software Pipeline for Developing and Evaluating Time-Series Machine Learning Models Using Electronic Health Record Data*, Sean R. Meyer (University of Michigan), Jie Cao (University of Michigan), Xiaosong Zhang (University of Michigan), Adharsh Murali (Providence Health and Services), Karandeep Singh (University of Michigan)*
32. *Beyond Homophily in Graph Neural Networks: Current Limitations and Effective Designs*. Jiong Zhu (University of Michigan), Yujun Yan (University of Michigan), Lingxiao Zhao (Carnegie Mellon University), Mark Heimann (University of Michigan), Leman Akoglu (Carnegie Mellon University), Danai Koutra (University of Michigan)

Speech + Language

33. *Constructing Meaning in Small Increments*, Peter Lindes (University of Michigan)
34. *Neural Encoding of Natural Story Comprehension with Functional MRI and Electrocardiography*, Yizhen Zhang (University of Michigan), Kuan Han (University of Michigan), Jung-Hoon Kim (Purdue University), Robert Worth (Indiana University–Purdue University), Zhongming Liu (Purdue University)*
35. *MORSE: Multimodal Sentiment Analysis for Real-life Settings*, Yiqun Yao (University of Michigan), Verónica Pérez-Rosas (University of Michigan), Mohamed Abouelenien (University of Michigan), Mihai Burzo (University of Michigan)
36. *Counseling-Style Reflection Generation Using Generative Pretrained Transformers with Augmented Context*, Siqi Shen (University of Michigan), Charlie Welch (University of Michigan), Verónica Pérez-Rosas (University of Michigan), Rada Mihalcea (University of Michigan)

37. *Dynamic Layer Customization for Noise Robust Speech Emotion Recognition in Heterogeneous Condition Training*, Alex Wilf (University of Michigan), Emily Mower Provost (University of Michigan)
38. *Toward Intervention Prediction for Patients with Bipolar Disorder*, Haley Northrup (University of Michigan), Katie Matton (Massachusetts Institute of Technology), Emily Mower Provost (University of Michigan)*
39. *Expressive Interviewing: A Conversational System for Coping with COVID-19*, Charles Welch (University of Michigan), Allison Lahnala (University of Michigan), Verónica Pérez-Rosas (University of Michigan), Siqi Shen (University of Michigan), Sarah Seraj (University of Texas), Larry An (University of Michigan), Kenneth Resnicow (University of Michigan), James Pennebaker (University of Texas), Rada Mihalcea (University of Michigan)*
40. *Changes on Mental Health Forums during the COVID-19 Pandemic*, Laura Biester (University of Michigan), Katie Matton (Massachusetts Institute of Technology), Janarthanan Rajendran (Computer Science & Engineering, University of Michigan), Emily Mower Provost (University of Michigan), Rada Mihalcea (University of Michigan)*
41. *Classification of Manifest Huntington Disease using Vowel Distortion Measures*, Amrit Romana (University of Michigan), John Bandon (University of Michigan), Noelle Carlozzi (University of Michigan), Angela Roberts (Northwestern University), Emily Mower Provost (University of Michigan)*
42. *NLP Approach To Detect Mentions of Drugs And Adverse Drug Reactions In Tweets*, Deahan Yu (University of Michigan), V.G.Vinod Vydiswaran (University of Michigan)*
43. *SPARTQA: A Textual Question Answering Benchmark for Spatial Reasoning*, Roshanak Mirzaee (Michigan State University), Hossein Rajaby Faghihi (Michigan State University), Qiang Ning (Amazon Alexa Research), Parisa Kordjamshidi (Michigan State University)
44. *Growing a Large-Scale Document Categorization Dataset*, Stefan Larson (SkySync), Saarthak Maheshwari (SkySync), Shanti Stewart (SkySync)
45. *Biased TextRank: Unsupervised Graph-Based Content Extraction*, Ashkan Kazemi (University of Michigan), Veronica Perez-Rosas (University of Michigan), Rada Mihalcea (University of Michigan)
46. *UPSTAGE: Unsupervised Context Augmentation for Utterance Classification in Patient-Provider Communication*, Do June Min (University of Michigan), Veronica Perez-Rosas (University of Michigan), Shihchen Kuo (University of Michigan), William H. Herman (University of Michigan), Rada Mihalcea (University of Michigan)*

Robotics

47. *Social Navigation for Mobile Robots in the Emergency Department*, Angelique Taylor (UC San Diego), Sachiko Matsumoto (UC San Diego), Wesley Xiao, (UC San Diego), Laurel Riek (UC San Diego)*

48. *Image Transformation and CNNs: A Strategy for Encoding Human Locomotor Intent for Autonomous Wearable Robots*, Ung Hee Lee (University of Michigan), Justin Bi (University of Michigan), Rishi Patel (University of Michigan), David Fouhey (University of Michigan), Elliott Rouse (University of Michigan)