WORKSHOP: EXPLORING THE TRANSFORMATIVE IMPACT OF APPLIED AI ON HEALTH OUTCOMES

APRIL 23, 2024, 8:30 AM – 2:15 PM

Center for Academic Excellence, Ochsner Main Campus, Classrooms 1-3

AI and automation, combined with mobile health and wearables, are likely to have a transformative impact on health systems. Companies are studying the potential of AI-based agents to assist physicians in reducing administrative work, suggesting treatment plans, improving compliance, and more. For patients, these agents can educate them about their conditions, provide behavioral therapy, and assist in symptom management, among other services. The vision of patient-centric holistic care can be realized if implemented right. There are a multitude of challenges ranging from fragmented information systems to the limitations of ML/AI models concerning their interpretability, generalizability to bias, and safety. Addressing these challenges would need a very problem-solving approach, and these problems are very interdisciplinary.

The workshop aims to bring together interdisciplinary experts—including physicians, health policy experts, public health scholars, and AI researchers—to help understand the challenges posed by a fragmented information infrastructure from multiple perspectives, understand the state of patient behavior sensing, and identify the gaps needed to provide holistic health.

Agenda

8:30 am – 8:40 am	**Welcome & Introductions** Kick-Off & Workshop Objectives by Workshop Chair • **Raju Gottumukkala, Ph.D.** Director of Research, Informatics Research Institute, Center for Applied Artificial Intelligence & Associate Professor, College of Engineering, UL Lafayette Welcome Address • **Leonardo Seoane, MD, FACP,** Executive Vice President and Chief Academic Officer, Ochsner Health

8:40 am – 9:10 am	**Talk: Jason Hill, MD, MMM**, Innovation Officer, Ochsner Health
9:10 am – 9:45 am	**Panel: Understanding Challenges of Care Fragmentation from Various Perspectives** Care fragmentation, a prevalent challenge in healthcare, affects individuals across the spectrum, from those with chronic conditions to those seeking mental health services, particularly impacting those in lower socioeconomic statuses. Integrating AI with a human-in-the-loop approach across health decision-making, from mHealth to policy, can reduce information overload and provide evidence-based decisions. There are challenges with the existing information infrastructure, ranging from a fragmented information infrastructure to a lack of transparency and bias in AI models. The goal of this panel is to bring experts working in various aspects of healthcare, ranging from emergency care and behavioral health to community health and equity, to understand the challenges and where they would like to see transformation with what AI can do and speak about the challenges with operationalizing AI. **Moderator: Thomas Carton, Ph.D.,** Chief Data Officer, Louisiana Public Health Institute • **Jeff Kuo, MD, MMM,** System Chair, Patient Flow Center, Ochsner Health • **Lee Mendoza, PhD**, Director - Bureau of Health Informatics, Office of Public Health, Louisiana Department of Health • **Angie Sanchez, MD, MPH**, Health Innovation Officer, Louisiana Center for Health Innovation, UL Lafayette • **Eric Griggs, MD,** Assistant Vice-President, Community Health Affairs, Access Health Louisiana
9:45 am – 9:50 am	**Break**
9:50 am – 10:25 am	**Panel: Advancing Sensing and Automation to Monitor Patient Health and Behavior** New sensing and automation technologies, such as wearables, video, mhealth devices, have the potential to monitor patient behavior for various purposes. These range from understanding patient wellbeing to detecting anomalous health risk events. When combined with AI/ML, these technologies can help patients and doctors better manage health risks at individual and population scale. There are many challenges to monitoring patient behavior ranging from technical limitations of sensing, complex nature of data in real world, privacy, etc. The goal of this panel is to bring together experts working in various aspects of patient behavior monitoring. These fields include sensing patient behavior in

	hospitals, reproductive health, social determinants of health, and telehealth. The aim is to understand how sensors are being used today, where experts see the potential for sensing and automation to change how we measure patient behavior, and what some of the challenges are in enabling these advancements. **Moderator**: **Jason Hill, MD, MMM**, Innovation Officer, Ochsner Health • **Mr. Gunnar Hansen**, Head of Empathic Building Hospital Solutions, Haltian, Inc. • **Han Feng, PhD,** Research Assistant Professor, Tulane • **Mr. Charles Edwards**, CEO & Founder, One Telemed • **Constanza Villalba, PhD,** AVP Digital Programs and Innovation, Ochsner Health • **Fawad Khan, MD, FACNS, FAHS,** Director, Ochsner Comprehensive Epilepsy Center
10:25 am – 11:00 am	• **Industry Perspective on Applied AI for Health Outcomes** o Talk 1: **Ms. Melissa Hensley,** Executive Lead, Health and Human Services, Google Cloud o Talk 2: **Mr. Tomi Teikko**, Founder of Empathic Building, Haltian Inc **Industry feedback** 1. Jason Hill, MD, MMM, Innovation Officer, Ochsner Health 2. Mr. Partha Mohapatra, MBA, MCA, Director, CIO Advisory, CGI 3. Ms. Melissa Hensley, Executive Lead, Health and Human Services, Google Cloud 4. Ms. Mitzi Hochheiser, Medicaid Deputy Secretary, Digital Services, Data and Systems, Louisiana Department of Health 5. Mr. Tomi Teikko, Founder of Empathic Building, Haltian Inc 6. Mr. Charles Edwards, CEO, One TeleMed 7. Lee Mendoza, PhD, Director - Bureau of Health Informatics, Office of Public Health, Louisiana Department of Health 8. Ms. Arlene Pangan-Loots, Senior Director, Healthcare Quality, Aetna Health 9. Mr. Will Landry, Senior VP, Chief Information Officer, FMOL Health System 10. Mr. Chiara Obey, LPN, Monitoring Clinical Account Specialist, Medtronic 11. Thomas Carton, Ph.D., Chief Data Officer, Louisiana Public Health Institute
11:00 am – 11:45 am	**University Perspective on Applied AI and Health** Moderator: Nick Duesbery, PhD, Assistant Vice President for Research, Ochsner Health. • **Raju Gottumukkala, PhD,** Director of Research, Informatics Research Institute, Center for Applied AI, & Associate Professor, UL Lafayette

	• **Aron Culotta, PhD,** Associate Professor, Science and Engineering, Tulane University • **Edward J. Trapido, ScD, F.A.C.E.,** Professor, Epidemiology, LSU Health Sciences Center, New Orleans • **Ghassan AlRegib, PhD,** Professor, John and Marilu McCarty Chair, Electrical and Computer Engineering, Georgia Tech • **Joel Harley, PhD,** Associate Professor, Electrical and Computer Engineering, University of Florida
11:45 am – 12:30 pm	**Lunch & Keynote** • **Peter Croughan, MD**, Addiction and Internal Medicine; Deputy Secretary, Louisiana Department of Health
12:30 pm – 1:45 pm	**Faculty Research in AI/ML (Presentations + Q&A)** **Moderator: Chris Kimmel**, Chief Innovation Officer, Informatics Research Institute, UL Lafayette 1. P1.001.UL- Explainability in Large Language Models (LLMs)|**Antony Madia, PhD,** Associate Professor, Computer Science; Biological Artificial Intelligence Lab, UL Lafayette 2. P1.002.UL - Fusing AI and Blockchain for Healthcare Defragmentation and Beyond | **Mehmet Tozal, PhD**, Associate Professor, UL Lafayette 3. P1.003.UL - Agentriagéa: An LLM-based ICU admit triage system using an agentic framework over fragmented medical records. | **Ravi Teja Bhupatiraju, MBBS, PhD.**, Health Informatics Research Scientist, UL Lafayette 4. P1.004.TAU - Addressing Data Scarcity in Medical Diagnosis: One-Class Classification Methods | **Fahad Sohrab, Ph.D.**, Postdoctoral Research Fellow, Tampere University; Research Manager, Haltian Inc. 5. P1.005.UL - Multi-modal sensing and learning for Fall Risk Prediction |**Tanvir Faisal, PhD**, Assistant Professor, Mechanical Engineering, UL Lafayette 6. P1.006.TU - AI in Diabetes Management| **Lizheng Shi, PhD, Ms. Pharm, MA,** Endowed Regents Professor; Director, Health Systems Analytics Research Center, Tulane University 7. P1.007.OCH - Nasal Endoscopy | **Jonathan Bidwell, PhD**, Sr. Health Informatics Researcher, Ochsner Health 8. P1.008.TU - Machine Learning Techniques in CKD Analytics | **Yilu Lin, PhD**, Assistant Professor; Director, School of Public Health, Tulane University 9. P1.009.UL - NCDE-T: Revolutionizing Blood Glucose Forecasting with Combined Neural Controlled Differential Equations and Transformers | **Xiali (Sharon) Hei, PhD,** Associate Professor, Alfred and Helen M. Lamson Endowed Professor in Computer Science, UL Lafayette

	10. P1.010.UL - Federated Learning| **Li Chen, PhD, MASc**, Assistant Professor, Computing and Informatics, UL Lafayette (Presented by Dr. Raju Gottumukkala) 11. P1.011.TU - Causal inference with Foundational models | **Aron Culotta, PhD,** Associate Professor, Science and Engineering, Tulane University 12. P1.012.TU - Heartbeat Initiative, **Chanho Lim**, Machine Learning Engineer, Assistant Director of Digital Health, Tulane University Heart & Vascular Institute
1:45 pm – 2:15 pm	**Roundtable Discussion, Wrap-Up, and Next Steps** Moderators: **Dr. Aron Culotta,** Associate Professor, Science and Engineering, Tulane University & **Raju Gottumukkala, PhD,** Director of Research, Informatics Research Institute, Center for Applied AI, & Associate Professor, UL Lafayette • Industry Feedback & Interest • Feedback on Health Outcomes & Challenges • Feedback on AI topics • Wrap up and next steps
2:15 pm	**Closing**

Workshop co-organized by Raju Gottumukkala, PhD; Chris Kimmel & Henry Chu, PhD., UL Lafayette, Aron Culotta, PhD, Tulane, Dr. Jason Hill & Nick Duesbery, PhD, Ochsner Health.

Industry Participants: Ochsner Health, CGI, Google, One Telemed, Louisiana Department of Health Medicaid & Office of Public Health, Aetna Health, FMOL Health System, Medtronic, and Haltian Inc.

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