

2025 T-CAIREM Conference

The Evolution of Generative A.I.

Friday, November 14, 2025

Marriott Downtown at CF Toronto Eaton Centre

525 Bay Street, Toronto, ON

7 a.m. to 6 p.m.



Temerty Centre for AI Research
and Education in Medicine

UNIVERSITY OF TORONTO

WELCOME

When the Temerty Centre for AI Research and Education in Medicine (T-CAIREM) launched in 2020, our goal was to create Canada's health AI community. We're now the largest Artificial Intelligence (AI) in medicine network in Canada, and one of the largest in the world.

Canada is well-positioned to be a global leader in health AI – we have world-class data scientists, clinicians, and healthcare organizations that are innovating at the highest levels every single day. And yet, we remain largely disconnected. There is a clear need to unite everyone to accelerate innovative research in and applications of AI in medicine to advance clinical care, ultimately helping people lead healthier, longer lives.

We're living in an exciting time. Since we held our first T-CAIREM Conference in 2023, the landscape of AI medicine has evolved at light speed. It seems that every week, a new AI model is released, a tech company announces a new innovation in healthcare, and universities globally launch AI health research centres.

This is why the T-CAIREM team is so excited about today's event. This conference brings together some of the most thoughtful and progressive researchers, scientists, and clinicians in the field today. We hope you'll connect, collaborate, and learn from each other.

Thank you to everyone joining us for this conference. Each day, we shape the future, and your hard work is already making a difference in improving healthcare for future generations.

Best Wishes,



Muhammad Mamdani

PharmD, MA, MPH (“he, him”)

Director – University of Toronto
Temerty Centre for Artificial
Intelligence Research and Education
in Medicine (T-CAIREM)

Clinical Lead – AI, Ontario Health

Faculty Affiliate – Vector Institute

Professor – University of Toronto

GENERAL INFORMATION

Conflict of Interest Disclosure

T-CAIREM is committed to scientific rigour in all its educational programs. All speakers, moderators, facilitators, authors, and members of the scientific planning committee participating in this event are required to disclose any real or apparent conflicts of interest to the audience.

This includes, but is not limited to, relationships within the past FIVE (5) years with for-profit organizations, not-for-profit and public sector sponsors and donors, biomedical device manufacturers, or other corporations whose products or services are connected to the presentation's content.

This policy identifies potential conflicts of interest so the audience can make informed judgments based on full disclosure of relevant facts. It is up to the audience to assess whether the speaker's external interests might influence their presentation or conclusions.

Notice of Photography/ Videography

Today's event will be recorded for official purposes, such as promoting the University of Toronto, Temerty Faculty of Medicine, and T-CAIREM. By attending this symposium, you consent to being recorded. If you have any questions, please contact Dominic Ali, T-CAIREM Communications Specialist, d.ali@utoronto.ca.

Session Polling and Q&A

Visit [Slido.com](https://www.slido.com) and enter the code **1447536** or scan the QR code below to participate in polling questions and submit questions during each session. The moderator will review the questions and ask the speaker during the Q&A.



app.slido.com/event/4b1CPow5sYBcCz8MCwuyiQ/live/questions

Wi-Fi Internet Access

Network:
MarriottBonvoy_Conference

Password:
MECCOMP

Post-Event Survey

We want to hear from you!
Please take a moment to give your feedback about today's event.



surveymonkey.com/r/FHCD35D

SPEAKERS

Keynote Speakers



Vivek Natarajan
Research Lead,
Google DeepMind
*Advancing science
and medicine with AI
physician-scientists*



Bruce Schneier
Security Technologist,
Harvard University
*Security, Legal and
Ethical Considerations
for LLM Technologies*



Michael Liut
Assistant Professor,
Department of
Computer Science
University of Toronto
*From Small to Large:
Harnessing Language
Models for the Future
of Medical Education*

Invited Speakers, Moderators, and Panelists



Alejandro Berlin
Clinician Scientist,
Princess Margaret
Cancer Centre
University Health
Network



James Ehiagwina
Youth
Representative,
Kids Help Phone



Mamatha Bhat
Partnerships &
Engagement
Lead, T-CAIREM
University of Toronto



Jennifer Gibson
Director, Joint
Centre for Bioethics
University of Toronto



**Mary Jane
Dykeman**
Partner, INQ Law



Anna Goldenberg
Research Co-
Lead, T-CAIREM
University of Toronto

SPEAKERS



Nicole Kozloff
Clinician-Scientist,
Slaight Family
Centre for Youth
in Transition
CAMH



Devin Singh
Research Co-
Lead, T-CAIREM
University of Toronto



**Muhammad
Mamdani**
Director, T-CAIREM
University of Toronto



Kristian Stephens
Patient Partner
PSC Partners
Seeking a Cure
Toronto Transplant
Institute



David Rosenstein
Staff Emergency
Physician
Michael Garron
Hospital



Shauna Watson
Liver Transplant
Clinical Nurse
Coordinator,
Ajmera Transplant
Centre, University
Health Network



Heather Ross
Professor, Temerty
Faculty of Medicine,
University of Toronto
Head of the Division
of Cardiology, Peter
Munk Cardiac Centre



Steve Wolinsky
Patient Experience
Partner, North
York General
Co-chair, Patient
Council, Canadian
Primary Care
Research Network



Justin Scaini
Group Head,
Executive Vice
President,
Strategy, Innovation
and Transformation
Kids Help Phone

For full speaker
bios, please use the
following QR code:



tcairem.utoronto.ca/2025-t-cairem-conference-speakers

AGENDA

7am – 8am	Registration, Continental Breakfast, and Poster Set-Up
8am – 8:10am	Opening Address from the Co-chairs: Muhammad Mamdani (<i>T-CAIREM Director</i>) and Mamatha Bhat (<i>T-CAIREM Partnerships & Engagement Lead</i>)
8:10am – 9am	Keynote Address: Vivek Natarajan (<i>Research Scientist, Google DeepMind</i>) Moderator Muhammad Mamdani (<i>T-CAIREM Director</i>)
9am – 9:45am	Generative AI Healthcare Tools: Use Cases Presentation Moderator Mamatha Bhat (<i>T-CAIREM Partnerships & Engagement Lead</i>) Panelist 1 Justin Scaini (<i>Group Head & Executive Vice President, Strategy, Innovation and Transformation, Kids Help Phone</i>) Panelist 2 David Rosenstei (<i>Physician, Michael Garron Hospital</i>) Panelist 3 Shauna Watson (<i>Liver Transplant Clinical Nurse Coordinator, Toronto General Hospital</i>)
9:45am – 10am	Networking Break and Poster Viewing
10am–10:45am	T-CAIREM in partnership with Schwartz Reisman Institute present: Security, Legal and Ethical Considerations for LLM Technologies Moderator Jennifer Gibson (<i>Director, University of Toronto Joint Centre for Bioethics</i>) Keynote Bruce Schneier (<i>Public Interest Technologist, Harvard Kennedy School</i>) Panelist 1 James Ehiagwina (<i>Youth Representative, Kids Help Phone</i>) Panelist 2 Justin Scaini (<i>Group Head & Executive Vice President, Strategy, Innovation and Transformation, Kids Help Phone</i>) Panelist 3 Mary Jane Dykeman (<i>Partner, INQ Law</i>) Panelist 4 Nicole Kozloff (<i>Psychiatrist, Slaughter Centre Early Intervention Service and Director, CAMH</i>)

The Evolution of Generation A.I.

Friday, November 14, 2025

11am – 11:15am	Transition to Breakout Rooms
11:15am – 12:15pm	Trainee Presentations
12:15pm – 1:15pm	Networking Lunch and Poster Viewing
1:15pm – 2pm	From Small to Large: Harnessing Language Models for the Future of Medical Education
<i>Moderator</i>	Anna Goldenberg (<i>T-CAIREM Research Co-Lead</i>)
<i>Keynote Speaker</i>	Michael Liut (<i>Assistant Professor, Computer Science, University of Toronto - Mississauga</i>)
2pm–3pm	Debate: Debate: AI will begin to replace some doctors within the next 5-10 years
<i>Moderator</i>	Devin Singh (<i>Staff Physician & Co-Lead Clinical AI in Medicine at SickKids</i>)
	Yes Panel:
<i>Panelist 1</i>	Alejandro Berlin (<i>Clinician Scientist, Princess Margaret Cancer Centre</i>)
<i>Panelist 2</i>	Steve Wolinsky (<i>North York General Hospital Patient Partner</i>)
	No Panel:
<i>Panelist 3</i>	Heather Ross (<i>Head, Division of Cardiology, University Health Network</i>)
<i>Panelist 4</i>	Kristian Stephens (<i>University Health Network Patient Partner</i>)
3pm – 3:15pm	Networking Break and Poster Viewing
3:15pm – 4:15pm	Shark Tank
<i>Moderator</i>	Muhammad Mamdani (<i>T-CAIREM Director</i>)
4:15pm – 4:30pm	Closing Remarks from Conference Co-chairs: Muhammad Mamdani (<i>T-CAIREM Director</i>) and Mamatha Bhat (<i>T-CAIREM Partnerships & Engagement Lead</i>)
4:30pm – 6pm	Networking Reception and Poster Viewing

POSTER INDEX

Poster #	Project Title	Author(s)
P01	Evaluation of a Safe and Collaborative AI Agent for Clinical Decision Support in Liver Transplant Candidate Assessment	Ghazal Azarfar
P02	Responsible Adoption of Multimodal AI in Healthcare: Promises and Challenges	Ghazal Azarfar
P03	AI4TO: Towards Empathic Agentic Large Language Models for Supporting Immigrant Breast Cancer Survivors in Toronto	Divy Wadhvani
P04	Machine Learning for the Prediction of Massive Hemorrhage in Trauma: A Systematic Review, Meta-Analysis, and APPRAISE-AI Study	Anglin Dent
P05	Leveraging large language model personas for synthetic instrument validation of trust assessment instruments in pediatric emergency and surgical care	Ella Boone
P06	Digital Twins of Ex Vivo Human Lungs Enable Accurate and Personalized Evaluation of Therapeutic Efficacy	Xuanxi Zhou
P07	MEDfl: A Collaborative Framework for Federated Learning in Medicine	Ouael Nedjem Eddine Sahbi
P08	AI-enabled OSCE: A Modular Platform for Simulated Clinical Assessment and Rubric-based Feedback Using Large Language Models	Shlok Panchal
P09	Improving the Explainability and Performance of Pediatric Brain Tumor Molecular Subtype Classification through Multimodal Learning	Sara Ketabi
P10	Evaluation of Collaborative Human-LLM Workflow for Automated Discharge Summaries for Hospitalists	Ghadir Ali
P11	Machine learning models for estimating counterfactuals in a single-arm inflammatory bowel disease study	Dan Liu
P12	Mapping the Adoption of Artificial Intelligence in Canadian Healthcare	Tania Tajirian, Victorine Maikem
P13	Patient Perspectives on Use of Artificial Intelligence in Clinical Practice: A Narrative Review	Dimitri Oreopoulos
P14	Empowering Researchers: Generative AI Tools for Medical Data Analysis and Sharing	Daniel Hekman

POSTER INDEX

Poster #	Project Title	Author(s)
P15	Assessing Diagnostic Accuracy of ChatGPT-4o and Gemini Pro in Classifying Skin Lesions	Rick Jaggi
P16	The Write stuff: Ambient Listening and beyond: building AI capacity	Maxim Ben-Yakov
P17	Integrating Equity, Diversity, and Inclusion in Generative AI Applications for Healthcare Education: A Scoping Review	Danielle Shin
P18	Convolutional Neural Networks Outperform Automated Six-Point Morphometry for Vertebral Fracture Recognition in DXA Lateral Spine Images	Barret Monchka
P19	Practical Applications of Artificial Intelligence in Geriatric Medicine: A Scoping Review	Asghar Khan
P20	Is Generative AI the new NVivo? A Systematic Review on the Validity and Reliability of Large Language Models for Qualitative Data Analysis	Teddy Cheung
P21	Machine-learning-assisted preoperative prediction of pediatric appendicitis severity	Aylin Erman
P22	ECG-FM: A self-supervised foundation model for 12-lead ECG interpretation and rapid LVEF risk stratification in acute care	Sameer Masood
P23	A Deep Learning Screening Model for Accurate Traumatic Brain Injury Triage	Julia Wiercigroch
P24	Assessing reconstruction fidelity in conditional models for 12-lead electrocardiogram synthesis from limited leads	Mithun Manivannan
P25	Artificial Intelligence-Powered Wound Assessment at the Point of Care: Enhancing Equity Across Skin Tones	Tahiri Nasser
P26	Bias to Better: A Stepwise Checklist for Equitable Child & Youth MH AI	Adan Amer
P27	Medevi-RoB: A Cross-Domain Benchmark of Large Language Models for Automated Risk of Bias 2 (RoB 2) Assessment in Randomized Trials	David Nguyen
P28	Large Language Model-Assisted Critical Appraisal for Medical Education Research	David Nguyen

POSTER INDEX

Poster #	Project Title	Author(s)
P29	Guidelines for Understanding and Implementing Documentation Education with AI (GUIDE-AI) – A Multimodal Study Assessing Canadian Medical Trainee Perspectives on AI Medical Scribes	Nima Toussi
P30	Methodological Quality and Reporting Standards of AI Models for Predicting Clinical Deterioration: A Systematic Review Using the APPRAISE-AI Framework	Eric Zhang
P31	Responsible Adoption of Multimodal AI in Healthcare: Promises and Challenges	Ghazal
P32	Domain-specific Pretrained Encoder Transformers for the Identification of Methodologically Rigorous Systematic Reviews: A Retrospective Modeling Study	Fangwen Zhou
P33	Interpretable methodological rigour appraisal of randomized controlled trials with deep learning transformers and large language models	Fangwen Zhou
P34	7 & 8 combined	Fangwen Zhou
P35	Using Ensemble Deep Learning for Exercise Stress Echocardiography Quality Assessment	Khashayar Namdar
P36	Transferring Multi-depth CNN Pooling Features to Parallel LSTMs for Diabetes Risk Prediction from Primary Care EMRs	Karim Keshavjee
P37	Semi-automating risk of bias assessment in randomized controlled trials with deep learning methods	Daniel Xie
P38	Mapping Convergence and Divergence Between Health Informatics and Learning Analytics Using Topic Modeling	Mi Song Kim
P39	Automated Translation of Chronic Disease Diagnosis Codes Across Versions of the International Classification of Diseases Using the GPT-4 Large Language Model	Barret Monchka
P40	Trial Files: Leveraging large language models to summarize practice-changing clinical trials for clinicians	Katarina Zorcic
P41	Building and Evaluating Predictive Models to Forecast Urgent Dialysis Needs Across Four Tertiary Hospitals	Katarina Zorcic
P42	Machine-learning assisted exacerbation detection and cough classification in COPD patients	Nicholas Li

POSTER INDEX

Poster #	Project Title	Author(s)
P43	Accountability and Innovation in Health AI: Outcomes of the Health AI Systems Thinking for Community (HASTC) Workshop	Phoenix Wilkie
P44	Deep learning-based tongue motion analysis from unrestricted video in MND	Mahri Kadyrova
P45	Predictive Models on the Therapeutic Effects of Diverse Music Repertoires on Mental Health	Joey Qiao
P46	Old EMR, New Tricks: Leveraging a legacy EMR for AI-based prediction of clinical deterioration in a post-acute hospital	Jordan Pelc
P47	Bridging the Data Gap: A Low-Cost Human Activity Recognition and Collection System	Ryan Chang
P48	Twelve Tips for Integrating Artificial Intelligence into Medical Education: A Practical Framework	Alireza Jalali
P49	Artificial Intelligence in Health Education: A Qualitative Exploration of Student Perspectives	Alireza Jalali
P50	Gaps in Vendor Transparency: An Environmental Scan of AI-CDSS for Primary Care	Angela Coderre-Ball
P51	PAIldoc: Prototyping an AI Billing Assistant for OHIP in Ontario Family Practice	Miranda Chan
P52	Exploring Radiologist Burnout Amid the Rise of AI: A Scoping Review of Challenges Impacts and Interventions	Pardaman Seti
P53	Mediation CNN (Med-CNN) Model for High-dimensional Mediation Data	Jasper Zhongyuan Zhang
P54	Large language models for electronic health records in pediatric and surgical care: a systematic review	Carmel Daskalo
P55	Hybrid Spatial-Functional Deep Learning for Tumour Depth Estimation in Fluorescence-Guided Cancer Surgery	Michael Daly
P56	Applications of artificial intelligence in pediatric surgical pathology: A systematic review	Eve Wang
P57	Large language model summarization to support communication in palliative care: a protocol	Brigitte Durieux

POSTER INDEX

Poster #	Project Title	Author(s)
P58	Machine Learning Models for Individualized Osteoradionecrosis Risk Prediction in Head and Neck Cancer	Mohammad Moharrami
P59	External Validation of the Multifocal Electroretinogram Classification Interface (MERCi), a Machine Learning Algorithm for Hydroxychloroquine Toxicity	Godfrey Wong
P60	Exploring anthropomorphism for AI-supported decision-making in emergency psychiatry: A human-computer interaction experiment	Tosin Kasumu
P61	Bridging AI and Clinical Flow: a Mixed Methods Evaluation of an XGBoost-Powered Queuing Tool in the Emergency Department (EDQ)	Matthew Yip
P62	Stratifying Task Importance Across ALS Bulbar Severity Using Multimodal AI	Vishnu Akundi
P63	Efficiency Improvements at a Single Medical Genetics Clinic in Toronto Using PocketMD as an EMR for Virtual Genetics Consultations	Andrew Shuen, Hamid Yousafzai
P64	Comparative Evaluation of Convolutional Neural Networks (CNNs) and Vision Transformer (ViT) Learning Models for Classifying Alzheimer's Disease in Small-Datasets	Avin Sharma
P65	Development and Pilot Evaluation of an AI-Enabled Mobile Application for Postoperative Recovery: The POP Study Protocol	Tanya Abenaim
P66	A systematic review of ambient scribe use for physician documentation: A look at primary care	Dylan Grimm
P67	Evaluating a Locally Deployed 20B-Parameter LLM for Automated Screening in Systematic Reviews	Paulo Henrique Moreira Melo
P68	Evaluating End-User Feedback to Optimize AI Integration into the Operating Room	Ariana Walji

ORAL PRESENTATION INDEX

Abstract #	Abstract Title	Author(s)	Location
OR-10-01	Evaluation of a Safe and Collaborative AI Agent for Clinical Decision Support in Liver Transplant Candidate Assessment	Ghazal Azarfar	Ballroom
OR-10-02	Building Trust: LLM-as-a-Judge for the evaluation of chatbots for adolescent and young adult patients living with Type 1 Diabetes	Xinyi Liu, Pedro Velmovits	Ballroom
OR-10-03	Feasibility of an LLM-based decision aid for collaborative decision-making in juvenile idiopathic arthritis: a multimethod evaluation	Antonia Barbaric	Ballroom
OR-10-04	AI4TO: Towards Empathic Agentic Large Language Models for Supporting Immigrant Breast Cancer Survivors in Toronto	Divy Wadhvani, Elena Ospian	Ballroom
OR-5-05	Machine Learning for the Prediction of Massive Hemorrhage in Trauma: A Systematic Review, Meta-Analysis, and APPRAISE-AI Study	Anglin Dent	York A
OR-5-06	Leveraging large language model personas for synthetic instrument validation of trust assessment instruments in pediatric emergency and surgical care	Ella Boone	York A
OR-5-07	Digital Twins of Ex Vivo Human Lungs Enable Accurate and Personalized Evaluation of Therapeutic Efficacy	Xuanxi Zhou	York A
OR-5-08	MEDfl: A Collaborative Framework for Federated Learning in Medicine	Ouael Nedjem Eddine Sahbi	York A
OR-5-09	AI-enabled OSCE: A Modular Platform for Simulated Clinical Assessment and Rubric-based Feedback Using Large Language Models	Shlok Panchal	York A
OR-5-10	Applying Machine Learning to Improve Causal Inference: Impact of Non-Pharmaceutical Interventions on SARS-CoV-2 Infection Risk in Children	Mary Aglipay	York A
OR-5-11	Improving the Explainability and Performance of Pediatric Brain Tumor Molecular Subtype Classification through Multimodal Learning	Sara Ketabi	York B

ORAL PRESENTATION INDEX

Abstract #	Abstract Title	Author(s)	Location
OR-5-12	AI evaluating AI: A study comparing AI-based evaluations of AI-generated lay summaries from radiology reports against human evaluations	Nanziba Tasneem	York B
OR-5-13	Evaluation of Collaborative Human–LLM Workflow for Automated Discharge Summaries for Hospitalists	Ghadir Ali	York B
OR-5-14	Machine learning models for estimating counterfactuals in a single-arm inflammatory bowel disease study	Dan Liu	York B
OR-5-15	Mapping the Adoption of Artificial Intelligence in Canadian Healthcare	Tania Tajirian, Victorine Maikem	York B
OR-5-16	Patient Perspectives on Use of Artificial Intelligence in Clinical Practice: A Narrative Review	Dimitri Oreopoulos	York B
OR-3-17	Empowering Researchers: Generative AI Tools for Medical Data Analysis and Sharing	Daniel Hekman	Bay
OR-3-18	Assessing Diagnostic Accuracy of ChatGPT-4o and Gemini Pro in Classifying Skin Lesions	Rick Jaggi	Bay
OR-3-19	The Write stuff: Ambient Listening and beyond: building AI capacity	Maxim Ben-Yakov	Bay
OR-3-20	Integrating Equity, Diversity, and Inclusion in Generative AI Applications for Healthcare Education: A Scoping Review	Danielle Shin	Bay
OR-3-21	Convolutional Neural Networks Outperform Automated Six-Point Morphometry for Vertebral Fracture Recognition in DXA Lateral Spine Images	Barret Monchka	Bay
OR-3-22	Practical Applications of Artificial Intelligence in Geriatric Medicine: A Scoping Review	Asghar Khan	Bay
OR-3-23	Is Generative AI the new NVivo? A Systematic Review on the Validity and Reliability of Large Language Models for Qualitative Data Analysis	Teddy Cheung	Bay
OR-3-24	Machine-learning-assisted preoperative prediction of pediatric appendicitis severity	Aylin Erman	Bay

ORAL PRESENTATION INDEX

Abstract #	Abstract Title	Author(s)	Location
OR-3-25	ECG-FM: A self-supervised foundation model for 12-lead ECG interpretation and rapid LVEF risk stratification in acute care	Sameer Masood	Bay
OR-3-26	A Deep Learning Screening Model for Accurate Traumatic Brain Injury Triage	Julia Wiercigroch	Simcoe
OR-3-27	A Process-Driven Governance Model for Artificial Intelligence Software Not Classified as Medical Device in Canada	Remziye Zaim	Simcoe
OR-3-28	Assessing reconstruction fidelity in conditional models for 12-lead electrocardiogram synthesis from limited leads	Mithun Manivannan	Simcoe
OR-3-29	Artificial Intelligence-Powered Wound Assessment at the Point of Care: Enhancing Equity Across Skin Tones	Tahirih Nasserli	Simcoe
OR-3-30	Bias to Better: A Stepwise Checklist for Equitable Child & Youth MH AI	Adan Amer	Simcoe
OR-3-31	Prompt-engineering in Large Language Models (LLMs) to detect emotions from statements made by patient/ caregivers in online networks	Muhammad Haseeb Aslam	Simcoe
OR-3-32	Medevi-RoB: A Cross-Domain Benchmark of Large Language Models for Automated Risk of Bias 2 (RoB 2) Assessment in Randomized Trials	David Nguyen	Simcoe
OR-3-33	Guidelines for Understanding and Implementing Documentation Education with AI (GUIDE-AI) – A Multimodal Study Assessing Canadian Medical Trainee Perspectives on AI Medical Scribes	Nima Toussi	Simcoe
OR-3-34	Methodological Quality and Reporting Standards of AI Models for Predicting Clinical Deterioration: A Systematic Review Using the APPRAISE-AI Framework	Eric Zhang	Simcoe

T-CAIREM's free membership is open to students, faculty, researchers, clinicians, and staff at dozens of partner universities, research centres, and hospitals.



directory.tcairem.ai

Thank you for joining us!



Temerty Centre for AI Research
and Education in Medicine
UNIVERSITY OF TORONTO