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AI health tools aimed at helping disabled risk marginalizing them

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Bushra Kundi

Toronto, ON – As AI in healthcare continues to grow exponentially — with the global market forecast to reach US\$88 billion by 2028 — a group of Canadian researchers is calling for a paradigm shift in the way developers approach solutions for people with disabilities.

Their effort is based on a first-of-its-kind study led by York University Professor of Information Technology Christo El Morr and

Associate Professor of Critical Disability Studies Rachel Gorman, and University of Calgary Associate Professor, Faculty of Social Work Yahya El-Lahib.

“The problem with current health AI tools aimed at assisting people with disabilities is that they only focus on the medical model, which sees disability as a problem and looks at helping someone overcome their limitations,” said Bushra Kundi, a research assistant at York University, Master of Science student in e-Health at McMaster University, and a Senior Clinical Applications Specialist at Oakville-based Nucleus Independent Living, who is working with the research team.

“We need to take a more inclusive approach that also examines the social model of disability, which looks at what can be changed in the environment to meet their needs,” explained Kundi, highlighting the need for a more “disability-centric” AI design process that includes input from multi-disciplinary teams as well as people living with disabilities. “If we don’t shift to a more inclusive and collaborative methodology, we run the risk of producing solutions that actually perpetuate societal biases against people with disabilities.”

Kundi will be sharing the team’s research into AI and disability as a featured speaker at the upcoming [Congress of the Humanities and Social Sciences](#) (Congress 2024), Canada’s largest academic gathering and one of the most comprehensive in the world, taking place June 12 to 21 in Montreal.

Billed as a leading conference on the critical conversations of our time, Congress 2024 — themed “*Sustaining shared futures*” — serves as a platform for the unveiling of thousands of research

papers and presentations from social sciences and humanities experts worldwide. With more than 8,000 scholars, graduate students and practitioners expected to participate, the event focuses on what must be done to bring forth solutions for today and sustain the systems of tomorrow, with the goal of inspiring ideas, dialogue and action that create a more diverse, sustainable, democratic and just society.

At Congress 2024, Kundi will highlight key findings from an in-depth study into how AI is currently being applied to help people with disabilities. Most importantly, her work reveals that although AI has potential to aid in self-management of health conditions, enhance assistive devices and further disability justice, AI models developed for people with disabilities to date have not sufficiently measured or addressed bias.

“Essentially, an ableist perspective prevails within AI, potentially exacerbating disparities rather than alleviating them,” said Kundi, explaining that the historical data used to train AI systems can be inherently prejudiced against people with disabilities and is most often based on beliefs that typical abilities are superior.

“We need to ensure that we’re considering people with disabilities and the social model of disability so that we design inclusive AI solutions,” she said. Even generative AI tools like ChatGPT, which are rapidly opening up opportunities to help people with speech or hearing disabilities, innately could have bias.

Based on their findings, the researchers are calling for a collaborative effort to reorient AI development towards a disability-focused framework, and are urging developers to include the user perspective when creating data sets and AI models. For example,

if developers aim to create technology to make life easier for people living with visual impairment, they need to gather information from both experts in visual impairment and the visually impaired themselves, said Kundi.

“Software engineers are skilled in creating AI models, but without that support and insight from the person living with the disability, they will never be able to cover all of the bases required to make their model disability-centric,” she said. “If we want to ensure equitable benefits of AI advancements for all members of society, it is imperative that AI systems advance beyond technical excellence to encompass social responsibility and inclusivity as well.”

Organized by the Federation for the Humanities and Social Sciences in partnership with McGill University, Congress 2024 is sponsored by the Social Sciences and Humanities Research Council of Canada, Universities Canada, the Canada Foundation for Innovation, University Affairs, Sage, and The Conversation Canada.

Registration – which includes 140+ keynote and open Congress sessions, with a virtual attendance option for many presentations – is \$30. Visit <https://www.federationhss.ca/en/congress2024> to register for a community pass and access the program of events open to the public.

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