

hitchBOT creators to study how AI and robots can help patients

23 June 2017



Credit: McMaster University

McMaster and Ryerson universities today announced the Smart Robots for Health Communication project, a joint research initiative designed to introduce social robotics and artificial intelligence into clinical health care.

With the help of Softbank's humanoid robot Pepper and IBM Bluemix Watson Cognitive Services, the researchers will study [health information exchange](#) through a state-of-the-art human-robot interaction system. The [project](#) is a collaboration between David Harris Smith, professor in the Department of Communication Studies and Multimedia at McMaster University, Frauke Zeller, professor in the School of Professional Communication at Ryerson University and Hermenio Lima, a dermatologist and professor of medicine at McMaster's Michael G. DeGroote School of Medicine. His main research interests are in the area of immunodermatology and technology applied to human health.

The research project involves the development and analysis of physical and virtual human-robot interactions, and has the capability to improve healthcare outcomes by helping healthcare professionals better understand patients'

behaviour.

Zeller and Harris Smith have previously worked together on hitchBOT, the friendly hitchhiking robot that travelled across Canada and has since found its new home in the Science and Technology Museum in Ottawa.

"Pepper will help us highlight some very important aspects and motives of human behaviour and [communication](#)," said Zeller.

Designed to be used in professional environments, Pepper is a humanoid robot that can interact with people, 'read' emotions, learn, move and adapt to its environment, and even recharge on its own. Pepper is able to perform facial recognition and develop individualized relationships when it interacts with people.

Lima, the clinic director, said: "We are excited to have the opportunity to potentially transform patient engagement in a clinical setting, and ultimately improve healthcare outcomes by adapting to clients' communications needs."

At Ryerson, Pepper was funded by the Co-lab in the Faculty of Communication and Design. FCAD's Co-lab provides strategic leadership, technological support and acquisitions of technologies that are shaping the future of communications.

"This partnership is a testament to the collaborative nature of innovation," said dean of FCAD, Charles Falzon. "I'm thrilled to support this multidisciplinary project that pushes the boundaries of research, and allows our faculty and students to find uses for emerging tech inside and outside the classroom."

"This project exemplifies the value that research in the Humanities can bring to the wider world, in this case building understanding and enhancing communications in critical settings such as health care," says McMaster's Dean of Humanities, Ken

Cruikshank.

The integration of IBM Watson cognitive computing services with the state-of-the-art social robot Pepper, offers a rich source of research potential for the projects at Ryerson and McMaster. This integration is also supported by IBM Canada and SOSCIP by providing the project access to high performance research computing resources and staff in Ontario.

"We see this as the initiation of an ongoing collaborative university and industry research program to develop and test applications of embodied AI, a research program that is well-positioned to integrate and apply emerging improvements in machine learning and social robotics innovations," said Harris Smith.

Provided by McMaster University

APA citation: hitchBOT creators to study how AI and robots can help patients (2017, June 23) retrieved 30 November 2020 from <https://phys.org/news/2017-06-hitchbot-creators-ai-robots-patients.html>

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