

Realize. It starts with you.

Imagine having a job where every morning when you go to work you have a genuine smile on your face as you look forward to the day. "In the first few months, I honestly said my face is hurting from smiling," says Sandra Zilles, assistant professor in the Department of Computer Science at the University of Regina.

Zilles and her team of researchers will develop efficient solutions to complex problems in artificial intelligence, using interactive machine learning models and techniques. Ultimately, her research will advance our understanding of how we can make machines - such as computers - learn, in order for them to become intelligent assistants to humans.

"I'm interested in how I can use interaction between a human and a machine to speed up learning, in the sense that less data is needed. If the machine somehow knows that the data given is helpful data rather than randomly chosen data then it would be able to learn faster," emphasizes Zilles.

A machine that can be taught to exploit the quality of well-chosen data rather than a large quantity of potentially expensive data will speed up its learning process and be more economical.

The practical applications for this kind of research are numerous, explains Zilles, such as in the health care sector. "Wherever you collect data you have to analyze it, and very often it's just too complicated for a human to look at the data and answer the questions."

For example, what if a computer itself could learn how to interpret images visually? "Take an MRI, for example, is this brain developing a tumour - yes or no?" explains Zilles. "You would like to have computer support for sorting and classifying images and that's something we can't implement, can't program a machine to do. But we can implement learning algorithms that can learn to sort and classify."

The machine could then assist doctors in finding the right treatment for patients by helping to identify patterns in the symptoms, which is difficult for humans to do where large amounts of data are involved.

Applications for machine learning are wide ranging: from personalizing advertising in online markets and adapting to user preferences in web searches to analyzing genomes and molecules in bioinformatics. Zilles is dedicated to bridging the gap between theory and practical application.

In December, Zilles will meet with the Canadian Information Processing Society in Regina - an association of IT professionals - to discuss possibilities for connecting her machine learning research to industry relevant applications. "We need to educate students about industry needs as well and know their needs. This kind of interaction is good for both the students and industry partners because those partners may have an impact on what we're doing at the University of Regina."

For more information on Sandra Zilles' research, visit www2.cs.uregina.ca/~zilles/



Sandra Zilles

WHAT'S HAPPENING

Wednesday, November 24 7:30 p.m.
President's Community Award and Public Lecture

The Rotunda at the Terrace, 10 Research Drive

The RCMP's "Depot" Division will be recognized for its 125 years of service to the people of Saskatchewan. Assistant Commissioner Roger Brown, Commanding Officer of "Depot" Division, will deliver a public lecture on the RCMP's history of service in the province. A reception will follow the award presentation and lecture.

Free parking will be available at Innovation Place in Lot B and at meters.

For further information, contact Stephen King at (306) 585-4086.

Tuesday, November 30 6:30 p.m.
Faculty of Education Information Session

If you are considered to be an after degree or transfer student and are interested in pursuing a teaching career, join the Faculty of Education for an information session. You'll learn about programs offered and application procedures.

RSVP your attendance: education.counselling@uregina.ca

For further information, contact the Student Program Centre at (306) 585-4537.

Tuesday, November 30 7 p.m.
Faculty of Arts Lecture

"The Canadian Forces in Afghanistan: Impact of the Manley Report on CF Operations"
Speaker: Colonel J.A.M. Bigaouette, CD
Classroom Building Room 110

In 2008, the Manley report recommended a continuation of the Canadian Forces involvement in Afghanistan subject to the provision of helicopters, unmanned aerial vehicles and additional ground troops by 2009.

Having commanded Canadian aviation in Kandahar from April-November 2009, Colonel Bigaouette, Commander 15 Wing Moose Jaw and Director of the NATO Flying Training Program in Canada will speak of his experience and the impact the Manley report has had on the conduct of operations. He will also touch on the importance of the Canadian Forces contribution to the three-pronged approach favoured by the Canadian government - defence, development and diplomacy - outlining the Government's priorities for Afghanistan, the signature projects and the methods employed by the Canadian Forces to provide security and empower the local population. On the eve of another extension until 2014, Colonel Bigaouette will speak to the sacrifices made by Canadian Forces personnel and their families as they prepare for and execute their mission.

A reception will follow the lecture. Free parking in lot 15; pay parking at meters and kiosk.

For further information, call Milagros Charriez at (306) 585-4226.

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-Jayleen Francis, 4th Year Business Administration

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