

MACHINE LEARNING

Mindless machines and killer apps are evolving, becoming more intelligent and more invasive in our work and play, shopping and learning, health and safety. The transition is subtle; the implications profound. But who are these new partners, these decision machines? And what are their motives? The promise and problems, the implications and the markets for "machine assisted decision making" will be the subject of simultaneous research forums in Edmonton Tuesday, June 1st and Calgary Thursday, June 3rd. The forums are co-hosted by the Alberta Council of Technologies and the Alberta ICT Council. ABCtech seeks to diversify Alberta's economy through technology. ABCtech encourages the formation of local technology-enterprise networks and conducts research and public forums for demystifying and advancing the commercialization of emerging and potentially disruptive technologies.



About the Alberta Council of Technologies:

Diversifying Alberta's economy through technologies. ABCtech encourages the formation of local enterprise- technology networks and conducts research and public forums for demystifying and advancing the commercialization of emerging and potentially disruptive technologies.

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Forum Patrons & Sponsors:



EDMONTON FORUM:

June 1st, 2010 4:00—8:30 pm
Telus Professional Development Centre

CALGARY FORUM:

June 3rd, 2010 4:00—8:30 pm
University of Calgary's ICT Centre - Room 121



MACHINE LEARNING

Off-loading Intelligence— When Machines Decide

CO-HOSTS:



Edmonton Panelists



POLICY: ERNST BERGMANN is the Director of Business Development for the Biomedical Engineering Research & Results Initiative, BERRI. BERRI is an advanced product development center for health technologies headquartered at the UofA. His primary interest is in quality and regulatory requirements that assure product safety in the pharma, medical device and medical equipment sector and how these requirements can be balanced with effective product development. Dr. Bergmann has a PhD in Biochemistry and research background in infectious diseases, structural biology and drug development.



BUSINESS: DARRYL HUMPHREY, Deloitte Darryl's academic and consulting careers have focused on facilitating technology adoption in populations ranging from health care, to aviation, the military, governments, public & private companies, and to the elderly. Darryl's academic background includes a doctorate granted by the University of Illinois, leading an applied research facility, and consulting for NASA. Research topics included leading edge human-computer interaction challenges, biocybernetics, advanced analytical models, and human information processing abilities while under stress.



INVESTMENT: ROBERT MURAKAMI, AICML former Executive Director of the Alberta Ingenuity Centre for Machine Learning a world class machine learning research centre located at the UofA. He is also the President and CEO of Myriad Machine Learning Inc. (M2L), a UofA technology spin-off company created to commercialize machine learning technology developed at AICML for various clients, such as Alberta Health Services. Robert has over 35 years of experience in investment finance and has served on the Board of Directors of over 30 technology companies.



RESEARCH: PATRICK PILARSKI is a postdoctoral fellow with the Reinforcement Learning Artificial Intelligence Group and the Alberta Ingenuity Centre for Machine Learning, Dept. of Computing Science, at the UofA. His research interests include artificial intelligence, reinforcement learning, biomedical image and pattern analysis, nanobiotechnology, biomedical engineering, and robotics. Dr. Pilarski received the PhD in Electrical and Computer Engineering from the UofA and the BSc in Electrical Engineering from UBC. <http://www.ualberta.ca/~pilarski/>



ETHICS: JOHN SIMPSON Instructor, Philosophy & Humanities Computing, University of Alberta has recently completed his PhD. He teaches classes in philosophy of science and in computers and culture. His research interests include the use of simulations to examine the basic social structures of society and he insists on writing his own code to carry out these investigations. When not engaged in teaching or research he is the program administrator for Philosophy for Children Alberta and an active Scout leader and trainer.

Forum Presenters

Edmonton Presenter:

Dr. Jonathan Schaeffer

Alberta's Renowned Research Leader



DR. JONATHAN SCHAEFFER is a professor of Computing Science at the University of Alberta. He received his B.Sc. from the University of Toronto, and an M.Math and Ph.D. from the University of Waterloo. Dr Schaeffer is recognized as a world authority in artificial intelligence applied to computer games. His work in heuristic search resulted in the creation of Chinook, the first computer program to win a human World Championship in any game (checkers), an accomplishment that is noted in the Guinness Book of World Records. He also received an NSERC E.W.R. Steacie fellowship in 1997 for his influential games-related research. He is one of seven Canadians ever named a Fellow of the American Association for Artificial Intelligence, and in Canada contributes substantially to the development of information technology both in Alberta and nationally. He has designed numerous algorithms that have achieved widespread use, and has published widely, including almost 200 refereed publications, two books, and five edited volumes. In 2007 he announced he solved checkers. He is the iCORE chair in high performance intelligence systems, a professor of Computing Science at the UofA, and is currently the Vice Provost and Associate Vice President for Information Technology.

Calgary Presenter :

Dr. Randy Goebel

Industry Leader, Interim Exec. Director, Alberta Innovates



DR. RANDY GOEBEL is also a professor of Computing Science at the University of Alberta, and principle investigator in the Alberta Ingenuity Centre for Machine Learning. He received the B.Sc. (Computer Science), M.Sc. from the Universities of Regina, Alberta, and British Columbia, respectively.

Randy's current interests include applications of machine learning to systems biology, visualization, and web mining, as well as work on natural language processing, web semantics, and belief revision.

Randy has experience working on industrial research projects in advertising systems software, crew scheduling, pipeline scheduling, and steel mill scheduling, as well as scheduling and optimization projects for the energy industry in Alberta.

Randy has held appointments at the University of Waterloo, University of Tokyo, Multimedia University (Malaysia), and has had research collaborations with DFKI (German Research Centre for Artificial Intelligence), NICTA (National ICT Australia), RWC (Real World Computing project, Japan), ICOT (Institute for New Generation Computing, Japan), NII (National Institute for Informatics, Tokyo), and is actively involved in academic and industrial collaborative research projects in Canada, Australia, Europe, and China.

Calgary Panelists



RESEARCH: JOERG DENZINGER: Assoc. Professor of Computer Science, Uof C, his main interests are Artificial Intelligence and Multi-Agent Systems with a PhD from the U. of Kaiserslautern, where he also did his Habilitation. He has graduated over 15 graduate students, currently supervises 9 in projects ranging from AI-based software testing over distributed heterogeneous data mining to cooperative/competitive multi-agent search. Dr. Denzinger has published more than 70 peer reviewed papers and gave tutorial presentations at conferences like JCAI and AAMAS.



INVESTMENT: ROBERT MURAKAMI, AICML with over 35 years of experience in investment finance and as a senior corporate executive, Robert has served on the Board of Directors of over 30 technology companies. He is the creator and coordinator of the Student Entrepreneur Camp, sponsored by the UofA's School of Business Technology Commercialization Centre, a camp unique in both its setting and learning objectives geared towards creating a dialogue setting between Alberta graduate students in the applied science, engineering and medical faculties demonstrating individual entrepreneurial traits.

POLICY/COMMERCIALIZATION: DAVID REESE, Acting Director, Licensing & Business Development, UTI. David has an MBA from the Schulich School of Business in Toronto and M.Sc. In Biology from McGill University. Prior to joining UTI, David worked at the UniversityHealth Network as a Senior Business Development Officer and gained experience working with university spin off companies in Montreal and California. He is a member of the Association of University Technology Managers and Licensing Execu-



ETHICS: JOHN SIMPSON Instructor, Philosophy & Humanities Computing, University of Alberta has recently completed his PhD. He teaches classes in philosophy of science and in computers and culture. His research interests include the use of simulations to examine the basic social structures of society and he insists on writing his own code to carry out these investigations. When not engaged in teaching or research he is the program administrator for Philosophy for Children Alberta and an active Scout leader and trainer.



BUSINESS: ROBIN WINSOR, President & CEO, Cybera Winsor brings a strong background of experience in sectors such as medical science, oil and gas, seismic, and geophysics. He invented and developed the world's first direct digital x-ray system in 1991 and founded Imaging Dynamics to commercialize the technology. Winsor is a past winner of the Manning Innovation Award and the Ernst and Young Entrepreneur of the Year Award. Winsor holds multiple patents in the field of medical imaging and has authored standards currently in use in the medical, well logging, and seismic industries. He is a member of both the American Association of Physicists in Medicine, and the American Association for the Advancement of Science.