

The caiac Herald

CANADIAN ARTIFICIAL INTELLIGENCE ASSOCIATION
ASSOCIATION POUR L'INTELLIGENCE ARTIFICIELLE AU CANADA



THE OFFICIAL NEWSLETTER OF CAIAC

VOL 1

FEBRUARY, 2014

Welcome to the first edition of the CAIAC Herald!

The purpose of this publication is to keep you in touch with some of the new developments at CAIAC and in the AI community in Canada. In addition, each edition will feature an interview with an eminent member of our community. This time, our guest of honour is **David Poole** of the University of British Columbia. In this edition, the Herald will also feature an article introducing the members of CAIAC's executive committee and explain their roles. We will also list the new developments at CAIAC and those that we are planning and currently working on. Moreover, we will list all the upcoming events. For more information about CAIAC, please go to our Website at: <https://www.caiac.ca/>

Interview with David Poole



Winner of the Canadian AI Association (CAIAC), 2013 Lifetime Achievement Award

CAIAC:

What is, in your opinion, the most important development in Artificial Intelligence that took place in recent years or is in the process of taking place?

David Poole:

I am most excited about the combination of ontologies, data and probabilistic models. In the old days there were expert systems, which promised to automate expert knowledge in all domains, but were built on shaky foundations. Since then many people have been working on developing the foundations of reasoning and learning under uncertainty and of representing knowledge and ontologies that let us describe complex situations. Now these threads are being brought together and allowing for rich probabilistic models that can be acquired from heterogeneous data sets with informed priors.

CAIAC:

Why do you believe this is a significant development and what is its scope. Could you compare its projected impact to the impact that earlier advances in AI have had?

David Poole:

I think it will revolutionize how we, as individuals and as a society, use and acquire knowledge. People will publish data with respect to ontologies and people will publish hypotheses that make predictions on the data (these hypotheses will be a mix of human prior knowledge and machine learning). For any prediction, we will be able to ask what evidence it is based on. We can test hypotheses on all of the data in the world and, for any piece of data, determine what all relevant published hypotheses predict for it. Initially this will occur in narrow scientific areas, but you could imagine it being applicable for any domain in which we might want to ask what the evidence is for a claim, from evidence about global warming to

evidence that some celebrities are having an affair. We can't this yet, but its scope is unlimited.

CAIAC:

How do you believe that this new development will change our everyday lives?

David Poole:

When looking up information on the web, web searches base their results on popularity and often refer to some authoritative site. But believing based on popularity or appeal to authority is the wrong answer; we should base our beliefs on evidence. There is lots of lip-service to evidence-based medicine, for example, but it will really take off when we can evaluate hypotheses on all of the evidence in the world (both observational and experimental data) and apply the best hypotheses to real-world cases. There will be a time in the not-so-distant future when experts making decisions will be sued for not using the best-available information.

CAIAC:

What part has Canada played or is currently playing in this new development?

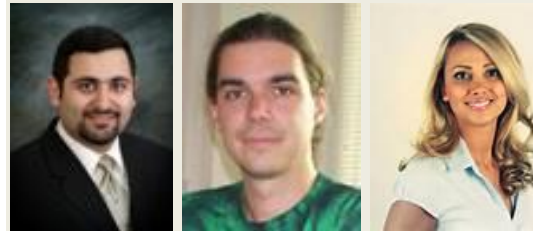
David Poole:

Canada has leaders in all of the fields which need to come together. For example, Michael Gruninger and Sheila McIlraith are pioneers in the use of ontologies and describing data in terms of ontologies. There are domain experts who are actively representing their domains in rich ontologies, such as Boyan Brodaric of the Geological Survey of Canada. There are experts in learning and reasoning with probabilistic models at McGill, Toronto, Alberta and UBC, and other places. Canada has the expertise to develop this vision.

Biography:

David Poole has been a Professor of Computer Science at the University of British Columbia since 1998. He is one of the world's foremost experts on Artificial Intelligence; he is particularly well known for his work on assumption-based reasoning, combining logic and probability and automatic inference algorithms, including probabilistic Horn abduction, independent choice logic, and the well-known variable elimination algorithm for probabilistic inference. His recent work focuses on the probability of existence and identity and on combining probabilities with ontologies, as well as on semantic science.

CAIAC's Executive Committee



CAIAC's executive committee is composed of five members plus one liaison member. Here is who we are:

President: Nathalie Japkowicz, University of Ottawa
(president@caiac.ca)

Vice-President: Cory Butz, University of Regina;
(vp@caiac.ca)

Treasurer: Malek Mouhoub, University of Regina;
(treasurer@caiac.ca)

Secretary: Ziad Kobti, University of Windsor;
(secretary@caiac.ca)

Past President: Holger Hoos, University of British Columbia

Industry Liaison: Atefeh Farzindar, NLP Technologies

Our purpose is to organize and sponsor a number of events. In particular, we are responsible for the Canadian AI Conference, the Graduate Symposium, Dissertations and Master's Thesis awards, the Lifetime Achievement Award, and the Distinguished Service Award. We also plan new activities and services for the AI community in Canada. We operate by holding monthly (or more frequent, when needed) Skype meetings to set up events and discuss new projects. The role of the president and vice president is to oversee the proper operation of the organization. The treasurer manages CAIAC's finances and the secretary records all internal and external communications and manages the website. The industrial liaison officer gives us advice on how to better serve the AI industry community and helps us reach out to that community. If you have ideas about how to improve the services provided by CAIAC, please do not hesitate to contact us at the e-mail addresses provided above. We welcome your comments and suggestions!

What's New at CAIAC?

Have you checked our website lately? If not, please do at <https://www.caiac.ca/>. When you do, you will find three new features:

- 1) The Careers page which will, once activated, contain job postings from both academia and industry. We strongly encourage you to post any opening you have in your group, be it a Ph.D. position, a post-doctoral position, a full-time academic or industry position. It is a very inexpensive way of advertising (all that is required is that the person posting the ad be a CAIAC member) and it can be very successful once the word is out that, the CAIAC website is a good place to *post* job ads and to *find* job ads.
- 2) The Theses in AI archive, which holds some of the recent master's theses and doctoral dissertations written by CAIAC members.
- 3) The AI Expert directory which will, when completed, include a list (with links to pertinent information) of all the AI researchers in Canada (professors and senior researchers in industry)¹
- 4) An informal electronic mailing list will be set up shortly. All current CAIAC members will be added to that mailing list by default, with the option to unsubscribe. Please note that this mailing list will run in parallel with the official CAIAC mailing list which is used only a few times a year for CAIAC-related announcements that need to reach all the members. Thanks to Vlado Keselj for initiating this project and offering to monitor the new list!

Other features have also been added to the website which will allow for an easier registration process, including an automatic reminder that your membership is about to expire as well as many small improvements in appearance and functionality.

¹ Please note that once on this list you will be able to edit the default information provided.

Upcoming Events



Save the Date! We have an exciting **Canadian AI Conference** in the making thanks to our very competent conference co-chairs, **Marina Sokolova** and **Peter Van Beek**. The conference will take place in Montreal from May 6th to May 9th 2014 and will feature a **new event: tutorials** by highly regarded local fellow researchers: **Yoshua Bengio** (on Deep Learning) and **Doina Precup** (on Clinical Monitoring). The invited speakers are: **Stan Matwin** (on Text Mining) and **Khaled El Emam** (on Privacy). As in the recent past, the conference will also host the **Graduate Symposium** and an **Industry Session**.

The 2014 AI Doctoral Dissertation Award and the 2014 AI Masters Thesis Award competitions are under way. These are annual competitions that consider theses completed during the calendar year preceding the year of the conference. The winners will be announced during the banquet at the Canadian AI conference.

See

<https://www.caiac.ca/en/2013-ai-doctoral-dissertation-award> and <https://www.caiac.ca/en/ai-masters-thesis-award-call-for-nominations>

for more information about these awards.

A committee of CAIAC fellows will soon be considering nominations submitted for the Lifetime Achievement Award and the Distinguished Service Award. See <https://www.caiac.ca/en/winners> to see a list of previous recipients of these awards.

