IBM Canada Newsroom

IBM and Mila AI Institute Announce Collaboration to Advance Artificial Intelligence and Machine Learning Technology

Markham, ON December 10, 2020 - IBM (NYSE:IBM) and Mila – Quebec Artificial Intelligence Institute (Mila) announce today a collaboration to accelerate AI and machine learning using Oríon, an open-source technology.

IBM and Montreal-based Mila began closely collaborating in early 2020 to improve and make more accessible a key component of AI known as hyperparameter optimization. Hyperparameter optimization is a method of "tuning" a set of rules used to control the machine learning process. This joint project aims to help researchers improve machine learning model performances and pinpoint within the "black box" of AI where their models need work.

Through the intended integration of Mila's open-source Oríon software and IBM's Watson Machine Learning Accelerator, IBM is also enhancing the implementation of state-of-the-art algorithms, as well as improved machine learning and deep learning capabilities for AI researchers and data scientists. As part of its commitment to open-source technologies, IBM's Spectrum Computing team based out of Canada Lab has contributed significantly to Oríon's code base.

Yoshua Bengio, Scientific Director at Mila and one of the world's leading experts in artificial intelligence and deep learning, said:

"A collaboration with leading industry AI experts such as IBM is a great opportunity to accelerate the development of an open-source solution recently initiated at Mila, combining engineering expertise, practical hands-on experience and cutting-edge research in AI."

Bengio continued: "Hyperparameter optimization plays an important role in the scientific progress of AI, both as an enabler to reach the best performances achievable by new algorithms, and as a foundation for a rigorous measure of progress, providing a principled common ground to compare algorithms. Hyperparameter optimization and its subfield of neural architecture search are additionally a key solution for the deployment of energy-efficient AI technologies, a problem currently posed by the trend of increasing computational cost of deep learning models."

Steven Astorino, Vice President of Development for IBM Data & AI and Canada Lab Director, said:

"As AI adoption increases across all business sectors, more industry leaders are discovering the value that data and machine learning models can provide during a time of accelerated digital innovation and transformation. To succeed in business today, faster times to create accurate models are essential to driving value for time to market."

Astorino continued: "Collaborating with some of the top global AI researchers at Mila, we're improving open-source technology to the benefit of all researchers and data scientists, while advancing the capabilities of IBM Watson Machine Learning Accelerator. This provides even greater value through our end-to-end client solutions and advances IBM's commitment to both the consumption of and contribution to open-source technology."

The Mila-IBM collaboration includes oversight from the IBM Canada Centre for Advanced Studies (CAS) and IBM Research, and aims to improve the development, deployment, and ongoing management of complex AI and deep learning models, as well as to make tools more accessible to a larger base of scientists, engineers, and developers through automation. Additional AI-focused projects are also underway between Mila researchers and IBM Research.

Discover more about how Mila and IBM are advancing the technical research capabilities of artificial intelligence through hyperparameter optimization at mila.quebec/blog.

For more information about Oríon, visit https://orion.readthedocs.io/.

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