PASQAL Joins Forces with Mila to Enhance Generative Modeling in Quantum AI

The partnership will leverage quantum benchmarking and tensor networks for generative AI while growing a quantum machine learning community

SHERBROOKE, CANADA, January 11, 2024 /EINPresswire.com/ -- Mila is proud to welcome PASQAL, a global leader in neutral atom quantum computing, to its partner community. This collaboration will be a first exploratory step towards enhancing generative modeling with quantum computing benchmarking and coupling with tensor networks.

Adding to Mila's vibrant community of nearly a dozen partners in the quantum space, this collaboration also aims to gather a community of researchers and companies at Mila around the topic of quantum machine learning. This is expected to be the start of future collaborative developments on the enhancement of AI by quantum technologies.

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The one-year research plan mainly seeks to contribute to quantum computing and machine learning by deepening our understanding of the interplay between quantum concepts and structured data generation, to explore the potential quantum advantages in machine learning, and to develop novel generative models. Slimane Thabet, quantum application engineer at PASQAL joined Université de Montréal and Mila Professor Guillaume Rabusseau's team as visiting researcher.

"This collaboration between Mila and PASQAL is an opportunity to explore and advance the intersection between quantum computing and machine learning. Together, we look forward to contributing to the ever-evolving landscape of AI and quantum innovation," said Guillaume Rabusseau, Assistant Professor in the Department of Computer Science and Operations Research (DIRO) at Université de Montréal, Core Academic Member at Mila and Canada CIFAR AI

Chair Mila, and principal investigator of this project.

"Boosting machine learning algorithms by quantum shows great potential, and neutral atoms quantum computing brings promising ways to find short-term relevant approaches. We really believe that the impressive community of Mila's ecosystem will contribute to deliver impactful results," said Raphaël de Thoury, CEO of PASQAL-Canada.

About Mila
Founded by Professor Yoshua Bengio of the University of Montreal, Mila is a research institute in artificial intelligence that now brings together over 1,200 specialized researchers in machine learning. Based in Montreal, Mila's mission is to be a global center for scientific advancements that inspire innovation and the growth of AI for the benefit of all. Mila is a globally recognized non-profit organization for its significant contributions to deep learning, especially in the fields of language modeling, automatic translation, object recognition, and generative models. For more information, visit mila.quebec

About PASQAL
PASQAL is a leading French quantum computing company that builds quantum processors from ordered neutral atoms in 2D and 3D arrays to bring a practical quantum advantage to its customers and address real-world problems. PASQAL was founded in 2019, out of the Institut d'Optique, by Georges-Olivier Reymond, Christophe Jurczak, Professor Dr. Alain Aspect, Nobel Prize Laureate Physics, 2022, Dr. Antoine Browaeys, and Dr. Thierry Lahaye. PASQAL has secured more than €140 million in financing to date. To learn more about PASQAL, visit www.pasqal.com

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