

News on Variational Quantum Machine Learning

Román Orús

*DIPC, Paseo Manuel de Lardizabal 4, 20018
Donostia – San Sebastian*

*Multiverse Computing, Pasero de Miramon 170,
20014 Donostia – San Sebastian*

roman.orus@dipc.org

roman.orus@multiversecomputing.com

In this short talk I will discuss recent developments to implement variational quantum machine learning algorithms using few-qubit NISQ quantum processors, including quantum clustering, quantum optimization with non-orthogonal states, quantum continuous optimization, and variational quantum attacks to symmetric-key cryptography. I will also discuss recent developments on the implementation of quantum-SVMs and quantum kernels for classification problems.

References

[1] B. Aizpurua, P. Bermejo, J. Etxezarreta, R. Orus, arXiv:2311.02986

[2] P. Bermejo, R. Orus, SciRep 13, 9840 (2023)

[3] P. Bermejo, R. Orus, arXiv:2210.03136

[4] P. Bermejo, R. Orus, SciRep 13, 13284 (2023)