

Multiverse Computing: Quantum and Quantum-Inspired AI and Beyond

Román Orús

Multiverse Computing, Paseo de Miramon 170, 20014 San Sebastian – Spain

DIPC, Paseo Manuel de Lardizabal 4, 20018 San Sebastian – Spain

Ikerbasque Foundation for Science, Maria Diaz de Haro 3, 48013 Bilbao, Spain

roman.orus@multiversecomputing.com

[3] Siddhartha Patra, Saeed S. Jahromi, Sukhbinder Singh, Roman Orus, arXiv:2309.15642 (2023)

Abstract

Here I will present some of the latest developments being carried by the tech team of Multiverse Computing, the largest quantum software company in Europe. In particular, I will sketch briefly quantum and quantum-inspired AI applications such as the compression of Large Language Models [1], variational quantum attacks on cybersecurity protocols [2], classical simulation of quantum processors [3], and other industry-related topics. A brief explanation on the status of quantum and quantum-inspired software for industry will be discussed.

References

- [1] Andrei Tomut, Saeed S. Jahromi, Sukhbinder Singh, Faysal Ishtiaq, Cesar Muñoz, Prabdeep Singh Bajaj, Ali Elborady, Gianni del Bimbo, Mehrazin Alizadeh, David Montero, Pablo Martin-Ramiro, Muhammad Ibrahim, Oussama Tahiri Alaoui, John Malcolm, Samuel Mugal, Roman Orus, arXiv:2401.14109 (2024)
- [2] Borja Aizpurua, Pablo Bermejo, Josu Etxezarreta Martinez, Roman Orus, arXiv:2311.02986 (2023)