

The next wave of computing: quantum-centric supercomputing

Jerry Chow

IBM, USA

chowmj@us.ibm.com

The last few years have witnessed a strong evolution in quantum computing technologies, moving from research labs to an unprecedented access by the general public via the cloud. Recent progress in quantum processor size, speed, and quality, have cleared the picture towards a long-term vision in computing, where quantum processors will play a key role in extending the computational reach of supercomputers. In this talk I will describe how modularity will enable scaling, and how quantum communication will increase computational capacity. All this orchestrated by a hybrid cloud middleware for quantum for seamless integration of classical and quantum workflows in an architectural construct that we call quantum-centric supercomputer.