**The tensor network application in quantum computation**

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In this talk, we will briefly introduce the tensor network and show its application in measure-based and gate-based quantum computation. Symmetry-protected topological (SPT) phases exhibit nontrivial order if symmetry is respected but are adiabatically connected to the trivial product phase if symmetry is not respected. We show that two families of two-dimensional Z2 symmetric wave functions such that a finite region of the parameter in the symmetry-protected topological (SPT) phases supports universal quantum computation. We also introduce how to encode an MPS into quantum circuits of one- and two-qubit gates. On the other hand, we build an automated workflow that integrates Nodered and Kubeflow to achieve one-click execution of quantum neural network (QNN) on the pipeline.