How Will the Quantum Future Become the Quantum Now?

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Quantum is Now

What to we want?

$$U(\theta)\left|0\right\rangle^{k}\left|\psi\right\rangle >= \left|\phi\right\rangle,$$

where $U(\theta)$ is a unitary transform parameterized (perfectly) by θ and ψ encodes arbitrary classical data.

If we cannot have that?

$$U(\theta_\psi)\,|0\rangle^j = |0\rangle^k\,|\psi\rangle\,,$$

where $U(\theta_\psi)$ is a unitary transform parameterized (perfectly) by θ_ψ depending on ψ. Hence

$$U(\theta)U(\theta_\psi)\,|0\rangle^n = |\phi\rangle\,.$$

If we cannot have that?

$$U(\theta)\left|0\right\rangle^{n} = \left|something\right\rangle,$$

where $U(\theta)$ kind of depends on classical data.

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- Computation is distributed. It may be quantum, and it may be classical. It may be CPU, and it may be GPU.
- Computation is layered in classical and quantum layers.
- Both classical and quantum computations are parameterized and the parameterized and the parameters of the computations are learn.

What is the Quantum Now?

Quantum computation is ML.

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