

Peer Review

Review of: "Hybrid Quantum Neural Networks with Amplitude Encoding: Advancing Recovery Rate Predictions"

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The topic is very interesting and immediately caught my attention. However, upon reading the paper, I was left with a feeling of deep disappointment. There are two main reasons for that. First, the paper does not provide any description of the amplitude encoding scheme, despite it being the focus of the paper – there are only references to three other papers (some of them are already a bit dated), which leaves the reader with the question: what exact data encoding routine has been used by the authors? Second, there are only results obtained on a quantum simulator, which are of very little practical utility. Only experiments on a QPU can provide useful and instructive results: is the algorithm sufficiently noise resistant? What is the minimal circuit fidelity required by the algorithm and how can it be translated into the minimal required 1-qubit gate and 2-qubit gate fidelities? Are we constrained by the QPU connectivity? Are we constrained by the choice of native QPU 2-qubit gates? Can we use any error mitigation techniques and with what results? As it stands, I see very little utility in publishing this paper.

Declarations

Potential competing interests: No potential competing interests to declare.