

Analyze and improve performance of Qiskit Machine Learning

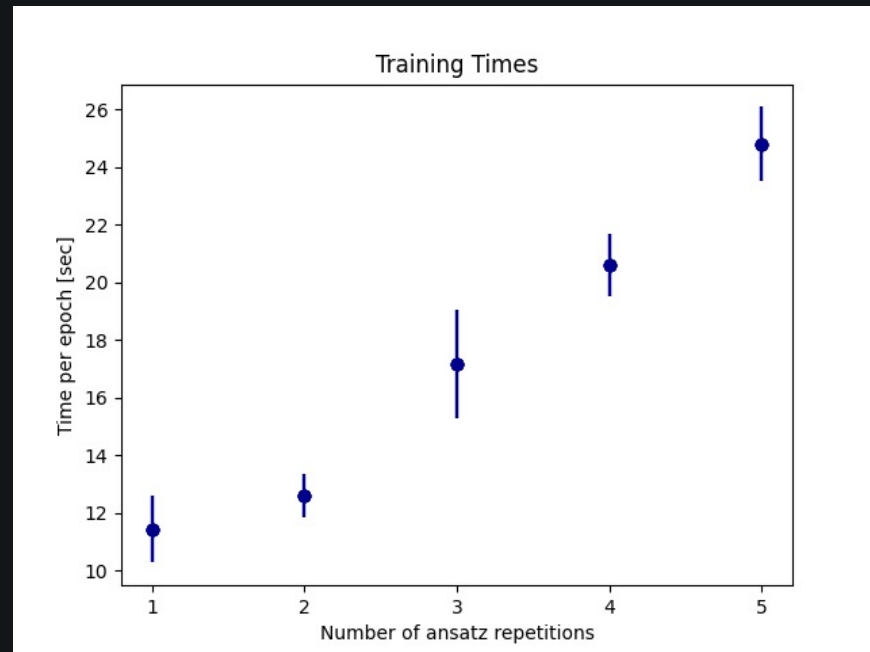
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Identifying the problem

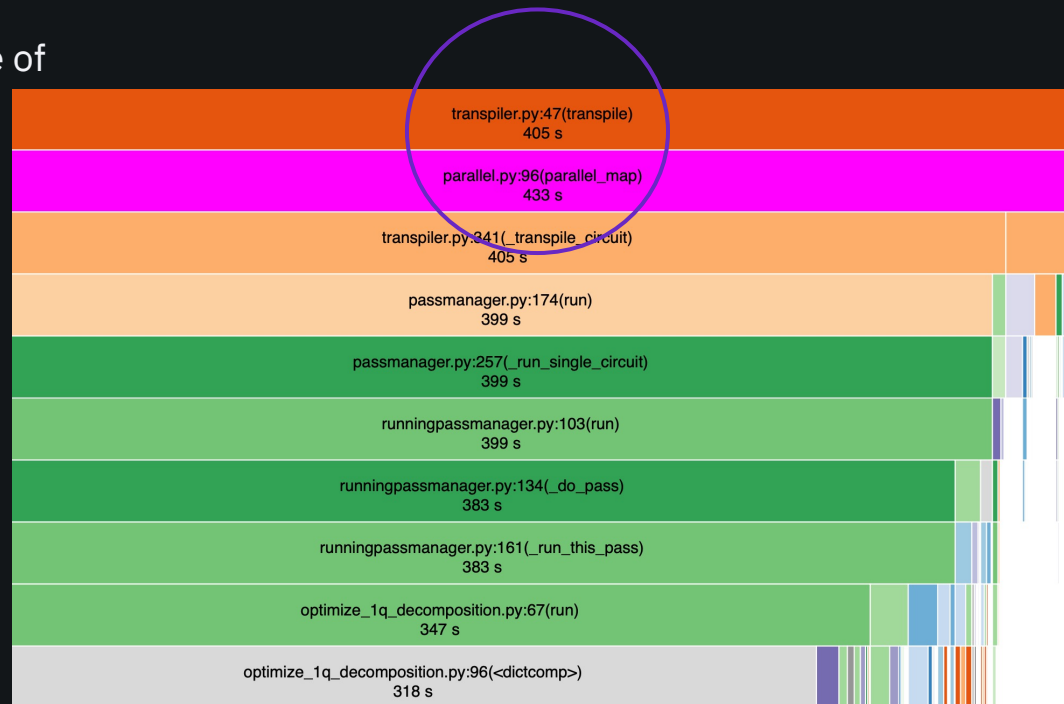
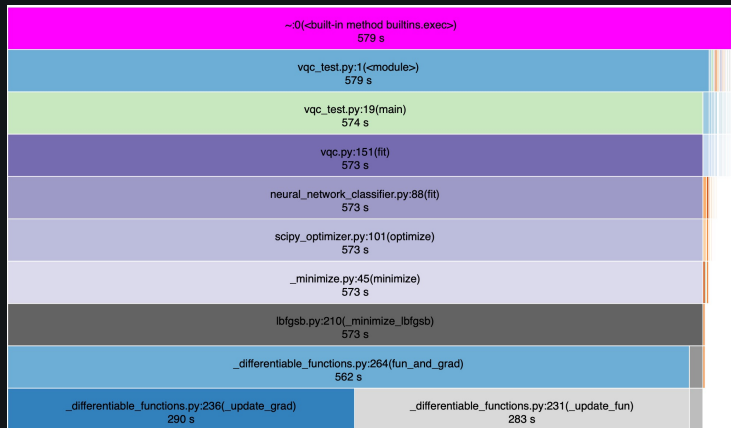
Current version of Qiskit QML is relatively slow. This project aims to identify sources of bottlenecks and produce solutions to them in order to speed-up the overall performance of the module.

As a first step, performance of VQC was investigated. IRIS dataset classification performance with different ansatz repetitions were considered.



Profiler output

Transpilation of the circuits is identified as one of the potential bottlenecks.



What's next?

We will analyze the source of the bottleneck and ideally solve it.

Then, the impact of the proposed solution will be investigated.

All findings will be documented, if applicable issues will be filed in corresponding repositories, and all will be reported on the final talk.

Further potential improvements will be investigated depending on the pace of progress.