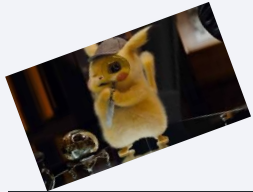
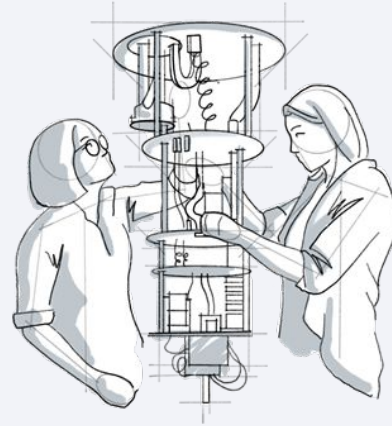


QAMP Spring 2022



Mentee: Leonardo Placidi (Qiskit Advocate)

Mentor: Atsushi Matsuo (IBM Research Tokyo)



Add performance benchmarks for Qiskit Machine Learning #4

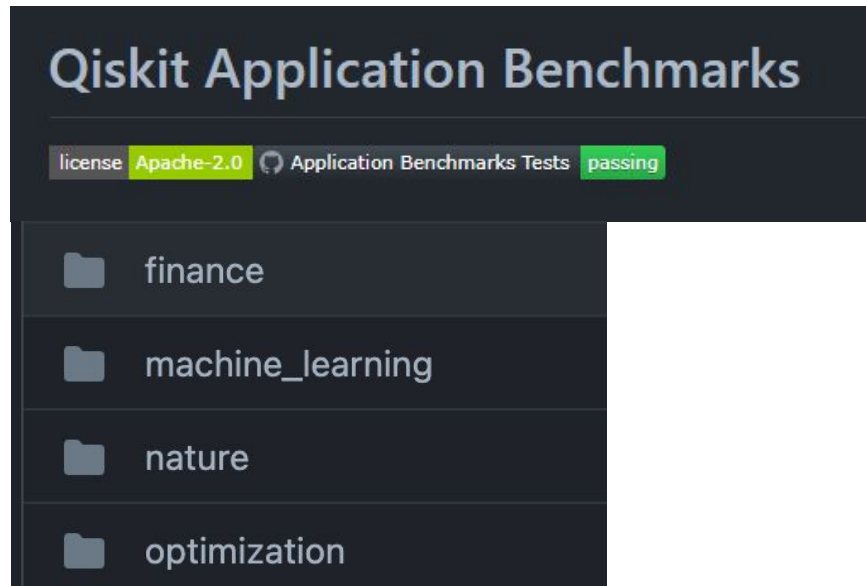
The Journey

We started learning more about [Qiskit Benchmarks](#) and the mission of this Qiskit repository

We learned more about [Qiskit Machine Learning](#) modules and methods

We worked on [Quantum Kernel](#) Methods (static ansatz or variational) to be benchmarked on Qiskit

We made a Draft Pull Request



Final Result

We opened a Draft Pull Request on Qiskit app benchmarks [here](#)

We wrote 3 codes to benchmark QuantumKernel and QuantumKernelTrainer. We benchmark with regard to classification tasks.

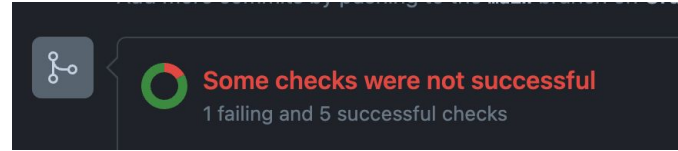
These benchmarks check the most common statistics, such as time to fit the model and the quality of the prediction performance.

We are currently working on the visualization with the tool airspeed velocity.

While we fully implemented the benchmarks to evaluate fit time, accuracies and a series of metrics, the code is not complete yet!

Our problem arises because we seem to be unable to run it locally, thus it makes the debugging extremely time-consuming and hard

We plan to fix it in the next weeks!



About the experience

We had some difficulties with the code, but we had a lot of fun!

I really enjoyed the opportunity to learn





Thank you



Leonardo Placidi and Atsushi Matsuo