

Sprint Review Meeting Minutes

Attendees: Christopher Kverne, Nathan Lioe-A-Tjam, Isabella Anthony

Start time: 01/25/2026 8:20pm

End time: 01/25/2026 8:40pm

After a show and tell presentation, the implementation of the following user stories were accepted by the product owners: All.

- **Task 1:** Worked on the Asynchronous parallel QNN training proposal. On paper training QNNs multiple quantum computers should reduce the training time. However accessing quantum hardware can be subject to long and variable queues. Async training addresses this by contributing each update independently as results are ready.
- **Task 2:** Worked on finalizing the idea of a quantum checkpointing library. Where we are aiming to implement the checkpointing framework proposed by the paper "Quantum Neural Networks Need Checkpointing". This would allow the training process to be "noise-aware" when resumed which will enable true portability and prevent the waste of expensive quantum resources.
- **Task 3:** Worked on finalizing the proposal regarding QNN optimization with the QNG optimizer. Since QNG is often deemed the "king" of quantum optimization being very popular in the literature, this proposal looks at the potential weaknesses of this optimizer beside just numerical cost. The proposal looks into the stability of the curvature aware method as QNN grows, where the goal is to show if it remains reliable and scalable.
- **Task 4:** Understand the main idea of the QNN algorithm which follows a quantum-classical architecture.
- **Task 5:** Understand why QNN checkpoints require additional meta-data regarding hardware constraints and how hardware affects pruning and quantization strategies.
- **Task 6:** Understand why QNN checkpoints can be stored asynchronously compared to its classical counterpart.
- **Task 7:** Finalized reading the QNN Need checkpointing paper focusing on understanding the classical-quantum interaction of the algorithm
- **Task 8:** Conduct literature review on existing work in the quantum field to get inspiration/ identify gaps for future work that is needed.
- **Task 9:** Begin working on 3 potential research proposals based on the prior quantum machine learning work we just read. It can be focused on the system implementations of the algorithms or theoretical challenges of quantum machine learning.

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Spring Planning meeting.