

PROJECT STATUS REPORT

NORTHROP GRUMMAN – QUANTUM AI AT THE EDGE

AS OF: 04/03/2022

PROJECT STATUS SUMMARY

Percent Complete: 65%

Scope	Schedule	Cost	Risks	Quality
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Risks

The sponsor has communicated that this project is fully R&D and exploratory by nature. There is a high probability that the project will not actually work. However, we will certainly be doing our best. If the quantum piece fails to show improvements over traditional models, then traditional models will be used for inference on the emulator.

WORK PLANNED FOR LAST WEEK

Last week we planned to continue developing the quantum models and refine the classical models. The quantum SVM and quantum MLP are nearing completion. Additionally, the classical SVM and MLP are nearly complete as well. The only thing that remains is some fine tuning and then our analysis and comparison between the models.

WORK COMPLETED LAST WEEK

We were able to get the quantum MLP working nicely. We still have some fine-tuning to do to get the accuracy above 90%. Additionally, the classical SVM and MLP are now completed and there are analysis notebooks for each. As we finish the quantum models we'll conduct more comparisons between the quantum and classical models.

WORK PLANNED FOR NEXT WEEK

This next week we are going to reach out to IBM to see if we can acquire some quantum tokens to deploy our models to their actual physical quantum computers. IBM has an API that will allow us to run our models on an actual quantum computer so we can get a realistic assessment of how well our quantum models are performing. We plan to reach out to IBM and figure out how to go about interfacing with their quantum API.

OPEN ISSUES

- Hardware emulation is not supported. We will have to get rid of the emulation component of this project or acquire a physical board. We are waiting to hear back from the sponsor before proceeding.

DELIVERABLES AND MILESTONES

Milestone	WBS	Planned	Forecasted	Actual	Status
Initial development environments	002	10/11/2021	10/11/2021	10/12/2021	Complete
Supplemental development environments	004	10/30/2021	10/30/2021	10/31/2021	Complete
Setup Vitas	006	10/21/2021	1/15/2021	1/14/2021	Complete
Solution Design	008	01/31/2022	02/18/2022	2/24/2022	Complete
Deliverable	WBS	Planned	Forecasted	Actual	Status
Setup git branches	003	10/3/2021	10/3/2021	10/3/2021	Complete
Project Charter Updates	001	10/14/2021	10/15/2021	10/14/2021	Complete
Requirements Document	005	10/21/2021	11/08/2021	11/15/2021	Complete
First Use Case	007	10/21/2021	10/24/2021	10/24/2021	Complete

OPEN CHANGE REQUESTS

Change Request Name	Change Request Number	Request Date	Current Status
NA			
NA			

KEY PERFORMANCE INDICATORS (KPI'S)

Schedule - Project is on schedule

Schedule Variance (SV): +/- 2 days

Cost - Project is on budget

Cost Variance (CV): \$0