

PROJECT STATUS REPORT

NORTHROP GRUMMAN – QUANTUM AI AT THE EDGE

AS OF: 03/06/2022

PROJECT STATUS SUMMARY

Percent Complete: 45%

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

The classical team continued working on improving the accuracy of the classical MLP. The quantum team has mostly finished implementing their quantum SVM. However, they have some model tuning that they are still currently working on. The MLP on the classical side is now finished and ready for export.

WORK COMPLETED LAST WEEK

The classical team completed their implementations of the MLP and SVM machine learning models. The SVM is now hitting 95% accuracy with the MLP hitting ~90%. The quantum team has nearly completed their quantum SVM; however, they expressed that they would like some additional time to fine tune the model so that it gets a higher accuracy.

WORK PLANNED FOR NEXT WEEK

The classic MLP model will be exported and then imported into Vitis to be used for inference on the Vitis embedded emulator. Since our sponsor has expressed their primary interest is quantum, we have redelegated two members of the classical team to the quantum side. The classical team is now a skeleton crew until the model is successfully running on the emulator. Once we achieve this, we will have met our baseline deliverable with our sponsor. After we can run the classical MLP on the emulator the entire team will be working on the quantum models for the rest of the semester per the expressed interests of the sponsor.

OPEN ISSUES

- They are currently no open issues.

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