PROJECT STATUS REPORT
NORTHROP GRUMMAN – QUANTUM AI AT THE EDGE
AS OF: 02/27/2022

PROJECT STATUS SUMMARY   Percent Complete: 30%

Scope	Schedule	Cost	Risks	Quality

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

We planned to continue our research, coding, our implementation for the project. The teams are beginning to hit their respective strides as they become more familiar with the data and their development tools.

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 ran into some hurdles because one of the Qiskit libraries used in their implementation is now deprecated. The quantum team then worked to resolve their dependency conflicts along with reading up the Qiskit Aqua to Qiskit Terra migration guide. The quantum team was able to resolve all of their issues and began working on their implementations again.

WORK PLANNED FOR NEXT WEEK

The classical team is going to continue working on improving the accuracy of the classical MLP. Additionally, the classical team is also going to reimplement the SVM in TensorFlow. The current SVM uses Scikit learn which is not supported by the Vitis AI platform. The classical team is algo going to export the existing MLP so it can be imported into the Vitis AI platform, and we can start running the model on the embedded emulator. The quantum team will continue to work on their SVM and MLP implementations since all their dependency conflicts are now resolved.

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