PROJECT STATUS REPORT
NORTHROP GRUMMAN – QUANTUM AI AT THE EDGE
AS OF: 02/11/2022

PROJECT STATUS SUMMARY   Percent Complete: 25%

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
Each team continued to work together to familiarize themselves with their respective development environments now that everyone has their machines setup and we have a solution for running models on the emulator. We are also going to continue working on our high level solution design.

WORK COMPLETED LAST WEEK
We found that we were able to setup a full development environment using WSL2, Jupyter Lab, and a Python Virtual Environment. The team worked to build out the environment with all the dependencies such as Sci-kit learn, Keras, TensorFlow, Cirq, Qiskit, Pandas, Numpy, etc.. The team then encapsulated the environment using the python 3 venv tool. This allowed us to push the requirements to the repo and then install everything on everyone's machines with minimal issues. Now everyone in the group has the same development environment, using the same tools, and the versions of the tools are all consistent across all machines and operating systems. Additionally, we also were able to push all of the CSV files to the git repository. Last, we made a Jupyter notebook with all of the CSV files loaded into Pandas data frames. We are now able to finish our high-level solution design and begin coding.

WORK PLANNED FOR NEXT WEEK
We will finish out our high-level solution design for both the quantum and classical machine learning teams. We also plan to start coding and begin our implementation for the project. The quantum team will begin their development with Google Cirq and IBM Qiskit. The classical ML team will begin their development using TensorFlow and other standard python machine learning tools.

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
UML Solution Design	008	01/31/2022	02/18/2022	TBD	Incomplete
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