**Project Status Report**

**Northrop Grumman – Quantum AI AT The Edge**

**As Of: 03/20/2022**

**Project Status Summary**  Percent Complete: 55%

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 refining the models while we wait for someone from Xilinx or the project sponsors to get back to use regarding the hardware emulation component of this project. As a result, we will just continue to refine both of our classic and quantum machine learning models.

# Work Completed Last Week

The classical team is nearly done with both the SVM and MLP models. They accuracies are higher than the previous week but still need some work. The quantum team has completed their quantum SVM; however, they want to continue refining the model to ensure the accuracy is above 90%. Regarding hardware emulation. We heard back Xilinx and it turns out the hardware emulation is not currently supported. Therefore, we will have to work with the sponsor to redefine the scope of the project or get a physical board that the sponsor can lend us before we continue trying to run our models on the emulator for inference.

# Work Planned For Next Week

We will continue to refine the models. We will have to work with the sponsors to redefine the scope of the project or acquire a physical board from them that we can deploy the models to. As a result, both teams will continue to attempt achieving higher accuracies on the machine learning models while we wait to figure out how the scope will be redefined or see if we can get a physical board to use since emulation is not supported.

# 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