HALO:
High-efficiency Autonomous Low-SWaP Operations

Sloan Hatter, Blake Gisclair
Advisor: Dr. Ryan T. White

MILESTONE 5 PROGRESS MATRIX

Task	Completion %	To Do
Showcase Poster Draft	**90%**	Add in results and data images
Obtain a CNN model trained on the same dataset as the ViT	**100%**	None
Compare the performance of the 32-bit CNN model to the performance of the 16-bit quantized ViT model	**70%**	Gather CNN performance metrics for comparison
Fix 8-bit ViT model	**70%**	Prime 32-bit ViT model with Q/DQ nodes for 8-bit quantization on the Jetson
Attempt 4-bit quantization	**70%**	Run specialized commands for 4-bit representation on the Jetson using the primed 32-bit ViT model

TASKS COMPLETED

- Obtain a CNN model trained on the same dataset as the ViT

- Compare the performance of the 32-bit CNN model to the performance of the 16-bit quantized ViT model
  - Get CNN performance metrics

- Fix 8-bit ViT model
  - Insert Q/DQ nodes into ONNX file

- Attempt 4-bit quantization

MILESTONE 6 TASKS

- Finalize Showcase Poster
- Demo Video
- User/Developer Manual
- Finalize performance metrics and results for both the quantized 16-bit ViT and the 32-bit CNN
- Record metrics for quantized 8-bit ViT for CNN comparison if feasible
- Record metrics for quantized 4-bit ViT for CNN comparison if feasible

MILESTONE 6 TASK MATRIX

Task	Sloan
Finalize Showcase Poster	100%
Demo Video	100%
User/Developer Manual	100%
Finalize performance metrics and results for both the quantized 16-bit ViT and the 32-bit CNN	100%
Record metrics for quantized 8-bit ViT for CNN comparison if feasible	100%
Record metrics for quantized 4-bit ViT for CNN comparison if feasible	100%

THANK YOU!
QUESTIONS?