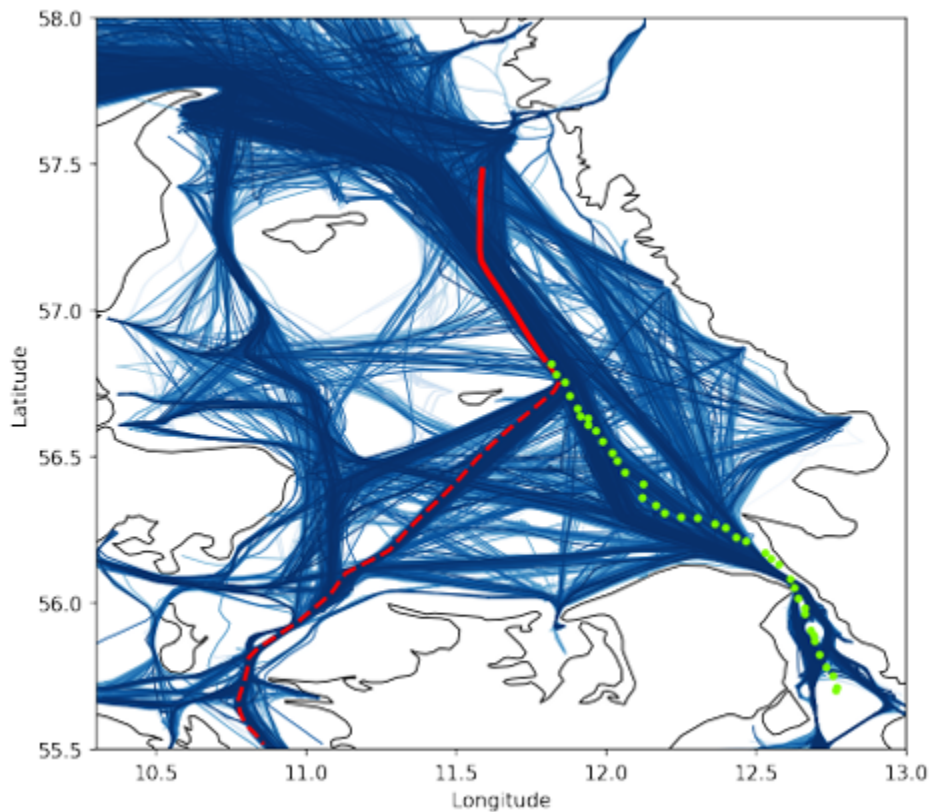


Ryan Gross  
G47667332  
CSCI 6917  
Guided Research Grad I  
Week 3 Summary Report

As a refresher, my research topic is the application of Large Language Models (LLM) in prediction of maritime vessel trajectories.



**Figure 1.** LLM input path in solid red, predicted output path in dotted green, and actual output path in dashed red.

During the third week I discovered a few issues causing performance issues:

- Difference in numpy vs python array formatting for numbers. Some numbers were being sent to the LLM with e notation which was causing inconsistent formatting. I addressed this by converting all numpy arrays to regular python arrays.
- I also noticed that output vessel path lengths were different, again making things inconsistent for the LLM. Some paths were only 25 points long, so when I used 18 points as the input, less than 18 points were in the output. This caused the LLM to not learn how long of an output it should produce, making measuring loss difficult. I fixed this by only using training samples with at least 36 points.