Prospectus

Deep Learning techniques applied to automatic flagging of navigational, meteorological and oceanographical observations from NOAA research vessels.

1. Abstract:
   1. Discuss the research question:
      1. The Shipboard Automated Meteorological and Oceanographic System (SAMOS) initiative improves the quality of navigational, meteorological and oceanographic observations collected on research vessels through the use of a number of quality control procedures. One such procedure is a visual quality control method which involves individual analysts manually reviewing large amounts of raw observational data. This method of quality control requires a considerable amount of time on the part of the analysts. Visual quality control is nonetheless a vital part of the quality control process as traditional automated quality evaluation methods are relatively limited in their ability to evaluate data holistically. The labor involved in this process and the potential to develop other non-traditional methods for evaluating data has inspired this research project which aims to develop a neural network capable of classifying anomalies in the data with comparable (if not superior) precision than our human analysts.

* 1. A review of the relevant literature:

1. The project proposal:
2. Chapter Outline (“How the student will organize and present the material incorporated into the thesis”):