Engineering Physics Project I

### April 6, 2015

### ENPH 459 Group 1507

Final Recommendation Report

This report was written to provide context for the evaluation of infrared cameras for the detection of obstacles at sea, and to indicate the next steps for UBC Sailbot team in the goal of avoiding hazards during their upcoming autonomous crossing of the Atlantic Ocean. The Sailbot team has been planning to attempt this crossing since Fall 2014, and our group has assisted with this project from January to the end of March 2015.

Contained in the report is an outline of the equipment developed for the protection during testing of a small infrared sensor, an overview of the software used to detect obstacles, and consideration of the effectiveness of a FLIR Lepton sensor for the detection of floating obstacles on the open ocean.

The reader may be particularly interested in the sections detailing the Test Rigs, design and constructed by our team for the purpose of testing small infrared cameras on boats on the ocean. Furthermore, the reader may consider our recommendations as well as our ongoing commitments to the Sailbot project.

The recipient of this report may keep it on file.