To: OBC Committee

From: Viking Robotics Society

Subject: Robot Arm – Progress Report

Dear OBC Committee,

The following letter is to report on the progress of the Robot Arm project that is due at the end of Spring term 2020.

**Introduction**

On May 21, 2019, I have submitted the project proposal for a research idea on the Impact of Machine Learning Technology to the Mechanical Engineering Field. Upon receiving approval for the project, I have immediately started working on the report. The goal is to provide an overview of machine learning (ML) technology from the perspective of a mechanical engineer (ME) and potential solutions to the ML’s threat. The report is currently being worked on by myself until the final submission.

**The Background**

Machine learning has been able to do product design, which traditionally was the duty of mechanical engineers. This development poses a threat to the mechanical engineering design field since ML has many advantages that are too competitive for the traditional MEs. The report will assess ML’s potential and its threat to the mechanical engineering community by examining case studies about designs that use ML. As a ME, I should be aware of ML, since it has the potential to replace MEs, and I think that other MEs should also learn about this topic. To begin writing the report, I need to brainstorm the ideas that I want to present and create a detailed outline with initial findings. I would also need to interview the graduate students and the professor who will be providing information for the report. The writing process can still be initiated without all the responses of the correspondents. These activities can help to formulate the structure of the final report.

**Work Completed**

To start the report, I have completed the brainstorming process and formed a good idea of the materials that will be presented in the report. I have put my ideas in a detailed outline and conducted the initial research for the project. I have also interviewed a professor for his take on the impact of ML on MEs. He has given me several ideas that can be explored more in-depth. This interview also gave me a firm vision of the final report. With the gathered information, I have begun to write several sections of the final report.

**Work to Be Completed**

To complete the final report, I will be interviewing two more graduate students who specialize in ML to gain an in-depth understanding of ML since as a ME, my understanding of ML is quite limited. With that last piece of information, I should have all the materials that will go in the final report.

**Anticipated Problems**

As finals week is approaching, my weekly workload will increase to finalize my classes, as I also have other papers that are due on the same week as the final technical report. Luckily, the Memorial Holiday will give me an extra day to get ahead of the curve. Over the weekend, I will complete at least 80% of the final report. If unforeseen circumstances arise over the holiday, I will reduce my number of hours of sleep to complete the report by the due date.

**Conclusion**

I should have the finalized report by June 12, and it will be ready for submission. The final report will be a comprehensive assessment of the potential of ML’s applications in ME. I will also provide recommendations for topics of ML for MEs who are interested to conduct a more in-depth study on their own. If the ML technology poses a threat to the ME field, I will also provide potential solutions to alleviate the concern.