# Bayesian Machine Learning Project Report

*Goal:* The goal of the project is for you to apply Bayesian machine learning to a real dataset in an advanced way. The project report should show you applied probabilistic reasoning to a nontrivial problem of your choosing.

*Instructions:*

1. Submit your report on-line in pdf or html (Do not submit in docs or doc).
2. You may discuss this assignment with other members of the class and you may consult on-line and physical references.
3. Reference any material or writing you obtain from other sources using the style of a major professional society (e.g., IEEE, ACM).
4. Clearly show your title and the names of all team members.
5. Your report should be no more than 4 pages excluding references using single-spacing with 10 or 12 pt font. You can put figures, large tables, and other supporting materials in appendices.
6. Include relevant graphics that show your results or explain the data. If you have extensive graphics, you can put them in appendices but discuss them in the text of the report.
7. Provide links to code that you used and a readme file explaining how to run it (do not include code in your report but you may attach it as a separate file if you do not have a link to a github page).

*Assignment:* Submit a report of the work from your course project using Bayesian machine learning to solve an interesting problem.

*Format:* Use the format below for your report.

1. Problem Description - What is the problem and why is it interesting and important?
2. Probability Model - What is the probability model that represents the objective for your work?
3. Approach - What Bayesian approaches did you use to solve the problem and why?
4. Results - Describe the outcomes from your work. Show the measures of uncertainty you obtained and how they inform the solution to your problem.
5. Conclusions - Have you met your objectives and what are the limitations of your work?

6. References
7. Appendices

*Rubric:* The report is worth 100 points and will be graded on the demonstration of probabilistic modeling using the following rubric:

1. (20) Problem description - Clear and well-motivated.
2. (20) Mathematical linkage between the problem and the method(s) - Well - formulated.
3. (20) Bayesian method(s) used - Appropriate and justified selection of techniques.
4. (20) Results and conclusions - Well-described and justified outcomes.
5. (20) Writing style and quality - How well your report communicates all of the above elements.