

Title

Your Name

Date

On my honor as a University of Colorado at Boulder student, I have neither given nor received unauthorized assistance on this work.

*Note regarding unauthorized assistance: I would prefer that you learn as much about Machine Learning as possible throughout your project. Therefore, I encourage you to talk to anyone and everyone about your project. Feel free to involve collaborators somewhat deeply, but in order to learn, you will of course need to do a significant amount of work yourself. I expect all written assignments to be your own work and reflect **your** understanding of that work. That said, your paper should reflect feedback from your class peer group as well as from me.*

*Please review a minimum of four papers and preferably six or more papers. At least three should be the most similar papers to what you plan to do. The others can describe the problem, a similar approach to a different problem, or anything else that makes sense to review.*

*Your literature review should be single spaced, 12-point font for the body, and 11-14 for headings, 1" top and bottom margins, 1.25" side margins, no less than 3.5 pages and no more than 8 pages. If you know where you plan to submit your final paper and you want to follow their formatting style guides, feel free to do so. For your experiment 1 write up, it would be good for you to use the style guides for your target conference or journal. If you plan to submit to a ML conference or journal, I **STRONGLY** recommend that you use latex (some people in this area will immediately think less of you and your work if they see you used something else; probably not the majority of reviewers, but enough that it isn't worth risking it).*

*You do not have to (and possibly should not) follow the guideline below exactly. If there is a related literature review or a lit review in your field, target conference or journal that you'd like to model your review after, feel free to do so.*

## **Introduction**

What is the problem you are addressing?

Who cares?

Why do they care?

If there is other literature that does a good job of defining the problem, cite them above.

At a very high level, what general approaches have been applied to this problem (e.g., ML, linear programming, manual, ... with short descriptions, etc.; or if they're all ML, the algorithms used...)?

Roughly how effective have they been?

What are their weaknesses and what are the current open issues in this area?

How do you plan to overcome these weaknesses in your work or what value do you plan to add?

*Review/paper organization: You could organize your review based on general solution approaches, by aspects of the task, by aspects of your proposed approach, or whatever else makes sense.*

*So the following is not a suggested organization for your review so much as it is a convenient organization to say what should be included somewhere.*

### **Approaches to Solving the Problem**

Provide more detail about the prior approaches to solving the problem, but not nearly as much as is in the papers being reviewed.

What are the key differences in these approaches and why do you feel one is better than another?

How and why is your approach better?

### **Data**

Describe the data (classes, class distribution, attributes, original source, quantity, any interesting pros or cons associated with the data) that other researchers have used and if you are not going to use it, indicate why not (this can be implied)?

### **Experimental Design**

What experiments did the prior work conduct?

If you see problems in those experiments, discuss them and how you will correct or avoid them?

### **Evaluation**

How did the prior work evaluate the problem and solution?

What have previous results been?

Was this evaluation reasonable? If not, elaborate and discuss how you will correct the issues.

### **Risk Issues**

Did the authors run into any problems that might also impact your project?

How will you mitigate those risks?

**Summary**

Summarize what you think the key aspects/issues are?

What is your project's contribution relative to these projects?

What is your project's contribution to the field of Machine Learning?