Guidelines for Project Status Report

Pat Langley provided the following definition of a well-crafted paper in machine learning. Your goal should be to submit a well-crafted machine learning paper for your final project report. You may have a well-crafted final project paper that is not contain significant results from a machine learning perspective and still do very well. Well-performed negative results are fine. Note all our research ideas turn out like we hoped. The quality of your research process is more important than the research significance of the results.

To quote Pat Langley:

A well-crafted paper on machine learning should cover a number of topics that communicate essential items to the reader. Different manuscripts may well organize this information in quite different ways, but the ideal paper should:

- **State the goals of the research** and the criteria by which readers should evaluate the approach. Categorize the paper in terms of some familiar class; e.g., a formal analysis, a description of some new learning algorithm, an application of established methods, or a computational model of human learning.
- **Specify the performance and learning tasks** that are the focus of the research, clearly distinguishing between the two aspects. If there is no performance system, propose some other means of evaluating the learning behavior.
- **Describe the representation and organization** of the system’s knowledge, along with the representation of training data. Include examples of each in the paper, unless the approach is a standard one and thus familiar to most readers.
- **Explain both the performance and learning components** of the system in enough detail that readers can reimplement them (again, unless they are familiar to most readers). Ideally, use some metaphor (like search through a hypothesis space) to describe the learning algorithm.
- **Evaluate the approach to learning**, avoiding unsubstantiated or rhetorical claims. If stating that one approach is better than others, include evidence or at least careful arguments to support these claims. For example, present experimental or theoretical evidence of performance improvement, show successful accounts of psychological phenomena, or give evidence of new functionality.
- **Relate the approach to other methods**, discussing similarities, differences, and advances over previous research. Do more than simply list references to relevant work. Place the method in historical context and clearly specify intellectual debts, including work on the same task done within other paradigms.
- **State the limitations of the approach** and suggest directions for future research. Go beyond a list of problems to propose tentative solutions

For the project status report, you should start putting together your paper. The components should include drafts of the initial parts of the final project:
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In addition describe briefly the progress that you have made to date on your project. Indicate any successes and milestones you have achieved so far. Indicate problems that you have encountered and/or anticipate and what steps you are taking to overcome and or get around them. It’s okay to deviate significantly from you initial project proposal. It’s okay to have problems. The important thing is that you identify them and figure out how to address them. I’m happy to help. Feel free to include any preliminary results but they are not mandatory. Anything you write in the project proposal and project status report can be recycled into you final project report. The project status report will be evaluated on a four point scale with 0 as did-not-turn-in and 4 as exceeded-all-expectations.