

Comments to Students about Papers

For the second paper, please revise the first paper based on my comments and your own curiosity. Go a bit deeper in the discussion and analysis. Make connections to theory and experiment. You are encouraged to add a section on (further) applications of the topic that you considered.

General suggestions:

- 1) Make sure to include clear quantitative theoretical arguments in your document. Also give clear and reasonably detailed explanations of how experimental tests of theoretical hypotheses work. Some experiments are quite complex, and the quantities measured, as well as their interpretation, can be subtle, or buried in jargon.
- 2) Many of you wrote a report based on a seminal paper on a particular topic. In many cases, the field has moved on since that paper was published, and the results in these early papers are now considered a bit dated and narrowly focused. Try to find more recent papers that build off of the seminal work, but take it a new direction, and write about this change in direction of the field. Look for a topic in which the newer authors have taken the seminal idea off in a direction that was likely not anticipated by the early authors.
- 3) Please do not include “orphan” figures in your paper! These are figures (and captions) that appear in the paper as decoration, but are not discussed in the text. Do not assume that readers will just happen across these figures, read them, and suddenly become enlightened. You have to build the text around the figures, using them to illustrate important points that you are trying to make. Everything that appears in the figures needs to be explained. The caption should simply describe what appears in the figure, and should not be used to augment the text. Put all ideas and original material in the text, and use the figures to illustrate and clarify your statements.
- 4) Make sure to explicitly define all physical quantities/variables introduced through equations and figures.
- 5) Please add a brief section to the paper describing how large language models have been employed to create and refine your paper.