

Presentation & Colab Assignment

Collaboration: You will do this assignments in groups of 2–3. These do not need to be the same as your final project groups.

The task: You choose one of the papers from a list (to be distributed via email) and carefully read the paper. You will give a 20-minute presentation to the class summarizing the paper, and also create a Colab¹ notebook illustrating some of the key ideas from the paper.

- **Sign-up.** A Google Spreadsheet will be sent out by email so that your group can sign up for a paper. First come, first served.
- **Colab Notebook.** You should create a Colab notebook which illustrates one or more of the key ideas from the paper. This will require implementing relevant aspects of the method (but you are not required to write code that reproduces the entire paper).

Your implementation should be in JAX. You are welcome to use publicly available libraries (with attribution, of course!), as long as it doesn't trivialize the assignment.

Since Colab isn't meant for heavy computation, you will probably want to focus on toy examples or small datasets like MNIST.

Include at least one visualization that goes beyond what's presented in the paper (or in lecture).

The notebook will be distributed to other students in the class so that they can experiment with it. If you give permission, it will also be posted publicly on the course web page. (Whether you give permission won't affect your grade for the assignment.)

You should take advantage of the Colab format. I.e., the user should be able to learn something from interacting with it that they wouldn't get from a static PDF.

Other students should be able to read your code and learn from it, so please make sure the style is more or less readable.

- **Presentation.** You should give a presentation to the class which is 20 minutes, plus 10 minutes for questions. We will hold you to this time limit, since there are a lot of presentations to get through.

The presentation should summarize the main conceptual contributions of the paper as well as the main experimental results, and relate it to the rest of the course content. Since you only have 15 minutes, there probably isn't time to go into all the details, so e.g. you probably won't present proofs of the theorems (unless they're very simple). It would be good, though, to hear some intuition for why the results are true.

You should also present your Colab notebook. It's up to you how to divide the time between the summary and the notebook.

It's not strictly required that all team members present, i.e. you don't need to tag-team if you don't want to. We'll assume everyone in the group contributed to the effort.

Deadline: Your presentation will take place in class the week after the relevant material is presented in lecture. E.g., if the paper relates to Lecture 6, your presentation will take place during Lecture 7. Your Colab notebook needs to be finished at that point so that you can present it. However, you get one additional week to polish the notebook based on the class's feedback; e.g., if

¹<https://colab.research.google.com/>

you present in Lecture 7 (which is Feb. 25), then we'll grade a snapshot as of your notebook as of March 4.

Submission: Email the presentation slides and Colab link to the instructor.