**MLHB 23: Final Project Questionnaire**

The questions below are intended to guide you in putting together the different pieces of your project. When the questionnaire is complete, you should have in hand what you need to form a concrete and well-thought-out plan, ready for execution.

Please fill in these questions and submit them (see link on course website).

This will account for 10% of your project’s grade, so invest time and effort appropriately.  
(Note: these questions may not be a perfect fit for all topics and projects; if you feel yours does not fit well within these guidelines - talk to us about it)

1. Chosen topic (number and title):
2. In your own words - what is your project about? Try to convey why you think or feel this is a good choice for you as a final project in our course.
3. What is the main phenomenon you seek to capture? What are the key mechanisms that are at play (i.e., that generate the phenomenon, or that are affected by it).
4. What are the key metrics you intend to measure? How do they relate? Explain their relation to the phenomena and/or mechanisms described above.
5. What parameters or variables will be interesting to vary or experiment with? Relate these to the metrics and measures from the previous question. Explain why you believe these variations are worthwhile to explore, and how you expect them to expose or illuminate the phenomena or effects you are after.
6. Combine your answers above to form **research question(s)** - these should be **simple,** **concrete**, and **testable.** State them here precisely and succinctly.
7. Rewrite your questions as hypotheses and/or conjectures. For each, explain how you plan to test it. These will guide you throughout the entire project - put in extra effort to make sure they are **polished**.

**Important note**: if your hypothesis boils down to ‘we think our method will have better performance’ – then this is insufficient as a research goal. Even if your project is about improving performance, try to phrase questions and hypotheses that get at the ‘why’ or ‘how’, not only at the ‘if’.

1. Describe your approach. Which learning algorithms will you use? Which are off-shelf tools, and which do you intend to implement yourself?
2. Describe the setting or environment you plan to experiment in, i.e., to test your hypotheses/conjectures. How do you intend to design and run simulations? What experiments do you plan to run? Give concrete details, and be consistent with your earlier questions - **this is the time to plan ahead**.
3. What code do you plan to use, and from what sources? E.g., public packages/repos (check online!), code from homework/workshops (if so, make sure your project remains distinct, and not a mild variation), new code (if so, describe it in brief).
4. List three potential pitfalls that you anticipate may occur. Try to plan your response.
5. Bonus question: What is the spirit animal of your project? Use an emoji, and explain briefly.

**Good luck!**

*MLHB 23-24 team*