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EPFL

Overview

For your mini-project, our goal is to give you some hands-on experience delving into the unknown, and help train you to think like a scientist (e.g., justify your approach, understand the purpose of 'control' experiments, work in a team, draw conclusions that are supported by the data, clearly present your work).

Your final report is due on May 25, 2021 by midnight, please submit the text (no page limit, including references) as an Adobe Acrobat pdf (*.pdf) on the Moodle link. Please also submit all of your data and code by emailing us (pavan.ramdya@epfl.ch) a link to a Dropbox/EPFL SwitchDrive account. Each group member will be expected to contribute to the experiments, data analysis, and report writing. The final report grade will be shared by all group members.

Organization

The report should include at least all of the following points:

No page limit including References:

1) Title (1 page) -
    a) Title of the report, group member names, and date.
    b) Include the course name.
2) Table of contents (~1 page)
3) Abstract (~1/2 page) –
    a) In one paragraph indicate - what is the overarching goal, why it is important, what is the question you are tackling, what is the approach you took, which results suggest that your approach was successful or unsuccessful, what are perspectives for future work.
4) Introduction / Background (~1-2 pages) –
    a) Put the experiments you've analyzed into context. See our introductory presentations for help on this.
    b) State-of-the-art: What important findings and studies came before this one? Be sure to read the relevant papers on the 'Introduction to the mini-project' Moodle Week 8.
    c) What are some open questions that you address in your study?
    d) Have numbered references that cite previous studies.
5) Methods (~1-2 pages) –
    a) Which analysis methods did you use to address your questions?
6) Results (most pages) –
    a) Summarize the findings from your analyses with well-laid out Figures that have readable plots with labeled axes and scales. Be sure to refer to all figures in the text.
    b) Each figure should have a nearby, clear Figure Legend.
7) Discussion (~1 page) –
    a) Which conclusions are supported by your results?
    b) Be sure to address the "Mini-project Questions to consider" outlined in another document.
    c) How would you done the experiment differently if you could have collected the data?
    d) Which experiments would you propose for future experiments to follow up on your analysis?
8) Appendix: Any additional information (e.g., list supporting data and code)

Style notes: Number your pages. Use minimum 11pt Arial font, 1.5 spacing between lines. Full justified. 1 column per page. For x-axes, convert data into real units of time (e.g., seconds (s)), not 'frames'.

Grading criteria

1) The data analyses should be carefully justified and presented.
2) The resulting figures and illustrative videos should be well organized (e.g., use effective naming conventions like: *Gal4A-walking-trajectories.mov*)
3) The code should be well organized and commented.
4) The final report should be:
   a. Deep – Relay important details in your description of what you've done and why.
   b. Clear - You should provide the most critical information in a sequence that presents a story. You should use words that clearly convey what you want to say.
   c. Concise – Don't waste space with unnecessary text. You have 5-10 pages to present your work.