

Machine Learning Practical 2020/21

Coursework 3 – Project Interim Report

Due date: 16:00 Thursday 12 February 2021

Maximum report length: 5 pages + references

Each group's Interim Report should cover the following issues:

- Motivation and introduction to the project
- Research questions and project objectives – be precise
- Data set and task
- Methodology
- Baseline experiments (and any further experiments that have been done so far)
- Interim conclusions
- Plan for the remainder of the project, including discussion of risks, backup plans

Motivation: You should give a broad introduction to the project, including citations to related work. Your aim here is to explain why the project is addressing an interesting topic and why it is worth conducting research in this topic, and how it relates to things that have been done in the area.

Research questions and objectives: You should make clear what are the aims and objectives of the project, what are the research questions being addressed – be precise. **In this section you should make clear what the project's contribution is: how is it different to what is already done.** The contribution of a project should extend what has already been done. Perhaps it will be a more detailed investigation of some particular aspects of a model/algorithm on a particular dataset; **perhaps you will be looking at an approach not previously reported on a particular dataset, etc.** Your project should involve more than using existing code and running it without modification.

The interim report should state the objectives of the project, which are related to the research questions. What experiments do you plan to carry out? You can differentiate between core objectives, and optional objectives you hope to achieve if things go well. The conclusions in your final report should relate to these objectives.

Data set and task: Clearly describe the data set and task you will be exploring. If the data requires any preprocessing, then explain this. The description should be in enough detail such that your work would be reproducible by another group. Describe how you will evaluate the task (for example, classification accuracy). Use citations where appropriate.

Methodology: Explain clearly the technical methodology, the models and algorithms that are used. Approaches that were covered in the lectures can be described briefly, but if you are using modifications to such approaches make sure these are clearly described. Again use citations to the literature.

Experiments: **The interim report should include some experimental results. In most cases these will be baseline experiments.** Baseline experiments refer to experiments conducted using well-understood approaches against which you can compare later results. For example if you were exploring a new data set, the baselines might include linear networks and deep neural networks with different numbers of hidden layers; if you were exploring a different approach to regularisation, then the baselines would include no regularisation, and conventional techniques such as L1, L2, and dropout. You can include the results of any further experiments in your interim report.

Interim conclusions: What have you learned so far? Do the experiments indicate that the project is feasible? Do the experiments indicate that you should consider changes to your original plan? Can you compare your results so far to what has been reported in the literature?

Plan: Based on what you have done so far, present a plan for the rest of the project. Are there any changes to the objectives? What are the risks? Do you need a backup plan?

It is up to each group how to structure the report. The structure may map directly to the items listed above; you may decide to do it differently (e.g. separate sections for different experiments). The key thing is to communicate your work as clearly as possible.

Remember to give the report a title!

Report Details

A single interim report should be submitted for each group. The report should show the project group number (e.g. G123) and the student matriculation numbers of the team members.

Format and length: Use the same document style for the interim report as for courseworks 1 and 2. **The interim report should be a maximum of 5 pages long, not including references.**

Citations: If you make use of any books, articles, web pages or other resources you should appropriately cite these in your report. You do not need to cite material from the course lecture slides or lab notebooks.

Feedback: This coursework will not receive a numerical mark, but will receive written feedback.

Academic conduct: Assessed work is subject to University regulations on academic conduct:
<http://web.inf.ed.ac.uk/infweb/admin/policies/academic-misconduct>

Submission

Your coursework submission should be done online on the [Learn](#) course webpage.

Each group should nominate one team member to make the submission for the group. Multiple submissions of the report are not required. Please make sure that your report includes the student ID numbers of the team members, as well as your project group ID (e.g. G456).

Your submission should include

- your completed interim report as a PDF file, using the provided template

You should copy this pdf file to a single directory, `coursework3-<groupID>`, e.g.

```
mkdir coursework3-<groupID>
cp -a interimReport-<groupID>.pdf coursework3-<groupID>
```

(where `<groupID>` corresponds to your project group ID e.g. G123)

Please make sure your submitted directory is named `coursework3-<groupID>` and `<groupID>` consists of 4 characters (G followed by three digits).

You should then zip this directory as `<groupID>.zip` by using the following command in Linux/DICE:

```
zip <groupID>.zip coursework3-<groupID>/
```

Once you have successfully created the .zip file, you need to login to your Learn Machine Learning Practical (2020-2021) [YR] webpage and submit the file.

- Migrate to the section **Coursework** on the left column on the course page.
- Click on Coursework 3.
- A page will appear where you will need to browse and upload your .zip file that you created previously in **Attach Files** and then click **Submit**.

You can amend an existing submission by attaching a different .zip file using the **Attach Files** option and then **Submit** again.

Note that we will only mark the last uploaded coursework in case you amend your files. Thus it is your responsibility to make sure that correct files are uploaded.

Marking Guideline

- Abstract – how clear is it? does it cover what is reported in the document
- Introduction – do you clearly outline and motivate the paper, and describe the research questions investigated, with appropriate citation to the literature?
- Research questions and objectives – are the objectives clearly and precisely stated?
- Data set and task – is the data set clearly presented? is it clear what preprocessing has been done, and how the data is split into training/test/validation? is the task explained? how is the task evaluated?
- Methodology – are the technical approaches adopted well-explained, with reference to the literature?
- Experiments – have appropriate baseline experiments been carried out? Are the results presented in a clear way? Is it clear what the hypothesis underlying each experiment is?
- Interim conclusions – how does the work done so far match to the objectives? are changes necessary? are the conclusions clearly expressed?
- Plan – is there a clear plan for the remainder of the project? have any risks been discussed? is there a need for a backup plan, and if so what is it?

In general your report should be clearly written and presented, well-structured, make good use of citations to the literature, and enable your experiments to be reproduced.