Machine Learning Practical: Coursework 4
Project Final Report

Due date: 16:00 Friday 23 March 2018

Report length: 8 pages + references

This coursework is the final report of the project that you have done in your project group of 2–3 students.

The coursework 3 specification outlines the process for these group projects that you are carrying out in semester 2 of MLP. This document presents the requirements for the final report (coursework 4).

1   The Final Report

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

- Introduction
- Methodology
- Experiments
- Related work
- Conclusions

Introduction: This should outline the research questions you are investigating and restate the objectives. There is no need to repeat in detail material covered in coursework 3, but you do need to provide enough to orient the reader. If the objectives have changed since the interim report, please point this out and explain why. (For instance, maybe the initial experiments justify a change of plan in some way.)

Methodology: Explain clearly the technical methodology, the models and algorithms that are used. Approaches that were covered in the interim report should be described briefly, further approaches not previously covered should be presented in more detail. If you described the methodology thoroughly in coursework 3, it is OK if this section is relatively short.

Experiments: This section should cover the experiments carried out, including, for each experiment, the:
- Motivation – what do you aim to learn from the experiment?
- Description – describe carefully how you carried out the experiment, mentioning and justifying the hyperparameter settings. As always, your aim is to give enough information so that someone else (e.g. another MLP group) could reproduce the experiment precisely.
- Results – present the results clearly and concisely. Usually a result is in comparison to a result from another approach (e.g. a baseline experiment, the previous experiment, results from the literature, . . .), please make sure that these comparisons are clearly presented.
- Interpretation and discussion – what do your results indicate? how do they relate to the motivation for the experiment? are there further useful analyses or visualisations of the results that you can carry out?

Related work: This section should review published work which can help to give a better understanding of your work – related approaches, other work on the same data, ideas for future work. The aim is to try to place what you have done in a wider context.

Conclusions: The conclusions section should concisely summarise what you have learned from the experiments you carried out, and relate the final outcome of the project to the overall research questions and objectives.

Please note that negative results are not necessarily a bad thing – learning is always good! But negative or positive, please try to analyse your results as well as you can.

2   The Details

A single final 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 final report as for the interim report (and courseworks 1 and 2). The final report should be a maximum of **8 pages** long, not including references. We will not read or assess any parts of the report beyond the allowed 8 pages + references.

Citations: If you make use of any 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.

Marks: This assignment will be assessed out of 100 marks and forms 40% of your final grade for the course.

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

Submission: You can submit more than once up until the submission deadline. All submissions are timestamped automatically. Identically named files will overwrite earlier submitted versions, so we will mark the latest submission that is submitted up to 7 days after the deadline.

Late penalty: Reports submitted after the deadline will be recorded as late and will be penalised as follows:

> *Following the University guidelines, late coursework submitted without an authorised extension will be recorded as late and the following penalties will apply: 5 percentage points will be deducted for every calendar day or part thereof it is late, up to a maximum of 7 calendar days. After this time a mark of zero will be recorded.*

Warning: The submit command will allow you to submit after the deadline. The late penalty will be based on the timestamp of the latest submitted report. Thus if you submit before the deadline, then make a submission after the deadline you will be subject to a late penalty.

Extension requests: For information about extension requests (and additional information about late   penalties),   see   http://web.inf.ed.ac.uk/infweb/student-services/ito/admin/coursework-projects/late-coursework-extension-requests
Course lecturers cannot give extensions. Therefore please do not contact any course staff directly about extension requests; you must follow the instructions on the web page.

3   Submission

Your coursework submission should be done electronically using the submit command available on DICE machines.

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.

Your submission should include:

- your completed final report as a PDF file, using the provided template
- a directory of files containing code, scripts and configurations you used in the project

Please do not submit anything else (e.g. log files, parameter files, outputs, ...).

You should copy all of the files to a single directory, coursework4, e.g.

```
mkdir coursework4
cp -a finalReport-<groupID>.pdf coursework4
cp -a <groupID>-codeDirectory coursework4
```

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

and then submit this directory using

```
submit mlp cw4 coursework4
```

Please submit the directory, not a zip file, not a tar file.

The `submit` command will prompt you with the details of the submission including the name of the files / directories you are submitting and the name of the course and exercise you are submitting for and ask you to check if these details are correct. You should check these carefully and reply `y` to submit if you are sure the files are correct and `n` otherwise.

You can amend an existing submission by rerunning the `submit` command any time up to the deadline. It is therefore a good idea (particularly if this is your first time using the DICE submit mechanism) to do an initial run of the `submit` command early on and then rerun the command if you make any further updates to your submisison rather than leaving submission to the last minute.

4 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 briefly describe the research questions and objectives.

- Methodology and Experiments – do you describe clearly the methodology (if not described in CW3) and technical approaches adopted. Is each experiment well explained including the motivation, technical description (reproducibility), the results (clearly presented), and the interpretation and discussion (relating to the motivation). – are the technical approaches adopted well-explained, with reference to the literature?

- Related work – is the work reported in the paper put in context with references to the literature where appropriate

- Conclusions – how does the work done match to the objectives? are the conclusions clearly expressed? what have we learned from these experiments?

To re-emphasise some overall points: 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.