This report contains feedback from students about a course taught in the School of Informatics during the 2020/21 academic year, in response to the following questions:

- What advice would you give to a student taking this course in future?
- What did you find most valuable about the course?
- What improvements, if any, would you make to the course?
- Please add any other comments you have about workshops, tutorials or labs on this course.
- Please add any other comments you have about the presentation of course materials online and their accessibility.
- Reflecting on your experience of hybrid teaching and learning on this course, what has worked well for you?
- Is there anything else you’d like to tell us about your experience of hybrid teaching and learning on this course that would help us improve our approach?

Each course organiser receives this report as well as statistics on multiple-choice responses. All these reports, together with student feedback about individual members of teaching staff, are collected and sent to the Director of Learning and Teaching.

Please note that these are personal responses from individual students: some courses only have a few responses and a small sample can be unrepresentative.

Stereotyping and bias, especially unconscious bias, is a serious concern in any survey gathering personal responses. All students received the rubric below before completing the surveys, and you can read a brief introduction to issues of unconscious bias on the university web pages at http://edin.ac/2iypZBv

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<th>Rubric given to all students taking the end-of-course feedback survey</th>
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We value your opinions on the courses you take here at the University, as they allow us to shape future delivery and development. We welcome constructive comments about your courses, whether positive or negative, and ask you to give details about any issues in order to help the course organiser to understand and address them.

We encourage you to be aware of the potential for bias in the completion of these questionnaires, so we have developed resources which may be helpful to you:

- Equality, Diversity and Unconscious Bias (http://edin.ac/2iypZBv)

You also have a responsibility to provide feedback in a manner which does not breach the University’s Dignity and Respect Policy:

- University of Edinburgh Dignity and Respect Policy (http://edin.ac/1Cq0VZy)

The results of the questionnaires will never be analysed in a way that seeks to identify individual students from their responses. However, should you wish to remain anonymous, please do not identify yourself in your answers to the survey questionnaire implicitly or explicitly.
Comments Report

1. What did you find most valuable about the course?

- The group project really helped me get to grips with practical ML engineering.
  - I very much appreciated the presentation and discussion with students from previous years.

- Response time to questions on Piazza
  - Course organizers and tutors were approachable and supportive
  - Interesting guest lectures during the second semester

- Challenged my limits to the utmost degree.

- First semester courseworks were really great.

- Get to choose topics you like and work on

- Group project is beneficial, the guest lectures are interesting and the first semester course materials is really good for someone who does not have much knowledge on deep learning

- I improve my practical skills a lot. Actually, I have a little coding experience because I am major in EE. During the coursework and labs, I make good progress for my coding ability. Great!

- Labs

- Nothing

- Opportunity to do a research project in the 2nd semester, interesting coursework

- The courseworks.

- The lectures are very well segmented so it was easy to follow and gives me time to process and connect the concepts together.

- The three courseworks in which you learn how to use PyTorch and Keras to build deep learning models, and even study some state-of-the-art deep learning architectures. The lectures are pretty good too and not too difficult.

- The tutorials in semester 2 were really helpful
1.6) What improvements, if any, would you make to the course?

- For me there seemed to be a disconnect between the practical engineering and the marking of the coursework reports. The engineering was focused on implementing ideas from the lectures but the coursework reports placed an unexpectedly high emphasis on scholarly writing such as following article conventions in the field, references, explanation. Please could the course include some more material on report writing or reduce the emphasis on the report and more on the experimentation or exploration of ideas.

- I think the tutorials in Semester 2 would be better if they were one-on-one (a 20-30min session for each group). We had one session like this in Week 9 and it was a big difference from our previous tutorials. We were able to get much more personalised help and got some really good advice on what to do next in our project.

Lectures

- Live lectures in Semester 1 please!

- More guidance in 2nd semester with the group projects.

- Provide more support, please. Also, if possible, could tutors please provide more practical advice in the projects? They seem to really just be pointing out the abstract stuff and there's not much guidance as to how to solve the problems.

- The assessment is too report-based, if there's some sort of demonstration which will have some weightage towards the final marks, I think that will be even better.

- The course was not friendly to Windows-users whilst it should be.

- There is no guidance for how to solve the coursework. Just write a document and they dont even tell us what is good in the document and what is bad, or an example of a good one. It just feels like they created this coursework with the intention of failing us.

- While I understand that some previous coding experience is a requirement for this course, extra resources (tutorials, office hours, etc...) to build foundations in pytorch/tensorflow would be of great help. I would have appreciated more exposure to pytorch/tensorflow/OOP in the first semester.

- Teach more about tensorflow or pytorch; more coding homework rather than more writing should be helpful; adding homework about implementing a certain structure in a paper should be challenging.
2. Machine Learning Practical

2.1) What advice would you give to a student taking this course in future?

- expect to work hard, but if you do it will pay off
- a lot of learning opportunities and the chance to practically apply it

- Attend tutorials and lectures.

- Be prepared for a lot of frustration with things unrelated to the teaching materials.

- Do NOT take this course if a. you are taking another course with a time-consuming project (dissertation included), b. you are not SUPER interested in machine learning. Basically, don't take the course if you cannot afford to devote 50% of your time on it. Also be prepared to be treated like a baby bird at the edge of the cliff: you WILL be pushed off the cliff and you will be expected to fly on your own. It's not an entirely bad way of learning but just have this in mind.

- Give proper time for coursework

- Must take this course If you've already done some Machine Learning and are interested in Deep Learning. You'll learn how to use PyTorch/Tensorflow and add some cool deep learning projects to your resume. You'll also use the Google Cloud Platform a little bit. The course isn't overwhelmingly difficult, but the courseworks will take a bit of work.

- No chance

- Really really good

- Some previous experience with python and python frameworks for AI, i.e. pytorch or tensorflow, is highly recommended for the second semester project.

- Start early, there is a lot to do at the end of the 2nd semester! Make sure your working style match at least a bit the working style of your teammates, also if you dont have a team leader, be one! Its hard without one and a lot of time could be wasted by waiting and not making decisions.

- Start the coursework early, you need time to run your experiment. Especially CW4 that requires at least a few hours per experiment. But don't take too ambitious of a project and then fail to obtain desirable results.

- Utilize the tutors, they're really willing to help and you'll learn a lot from them

- Write your coursework as if you're submitting a journal paper.

- You need to know how to write a report well

- just do what you like, and attend tutorials
Please add any other comments you have about workshops, tutorials or labs on this course

- The labs were a little too easy compared to the final project so a bit more implementing a network from scratch in PyTorch would help.
- The advanced tutorials seemed very advanced so I didn't find those very helpful.

- First semester labs were definitely useful.

- I didn't find my tutor very useful - if this happens you should contact other teaching staff on the course to see if they could kindly provide more support.

- I think the tutorials in Semester 2 would be better if they were one-on-one (a 20-30min session for each group). We had one session like this in Week 9 and it was a big difference from our previous tutorials. We were able to get much more personalised help and got some really good advice on what to do next in our project.

- Second semester tutorial

- The labs were not helpful at all, their primary use was for troubleshooting all of the technical things that could go wrong for the courseworks and did not serve any learning role.

- Tutorials might be better if each session is smaller and allocated per group (in Sem2). Because arriving to a tutorial slot and sometimes having 1 group take up too much time can be unideal.
4.1) Please add any other comments you have about the presentation of course materials online and their accessibility.

- Great tutorial on setting up mlp cluster
- Learn is abit of a mess, too much stuff
- Learn page organization a bit chaotic, always had to guess where to find what I'm looking for (e.g. Coursework, Assessment, or Course Materials?)
- There was a lot of structure on learn which is a lot better that most other courses but there's almost too much structure, it became quite hard to know what to click (e.g. 'assessments' or 'coursework')
- They were fine.
7. Machine Learning Practical -

7.1) Reflecting on your experience of hybrid teaching and learning on this course, what has worked well for you?

- It was easier to schedule meetings with teaching staff.
- Labs
- Really missed the group learning. Lectures on screen were fine but the group project and practicals suffered from the lack of shared discussion. My team mate for the group project was good at collaborating but I think it would have been much easier to make progress and exchange ideas if we'd been in a lab with a whiteboard.
- Semester 2 worked well but I felt a bit lost in semester 1 and disconnected from the course
- Yes in the first semester, but group project in 2nd semester was very hard to do remotely.
- combination of lecture recordings and online lectures
- yeah not bad
7.2) Is there anything else you'd like to tell us about your experience of hybrid teaching and learning on this course that would help us improve our approach?

- I wish I was using DICE instead. Most of my time for the coursework is to set up remote desktop or if even successfully becomes really slow.

- Lectures were not at all helpful - some of the live lectures were though.

- Practical work needs to be tuned for isolated work so have more incremental steps.
11. Thank you -

11.1) Thank you very much for taking the time to complete this questionnaire. Your response and comments will be fully considered.

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Please provide any additional comments you may have about the course, the teaching on the course or the resources that support it in the box below.

No responses