CS5242 : Neural Networks and Deep Learning

Administrative (Week 3)

Semester 1 2021/22

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NUS Course Materials: Ethical Behaviour and Respecting Copyright

Examples of Disallowed Things

No Posting on any websites (except for the materials explicitly allowed by your lecturer in the respective module)

No selling of material

No sharing of questions/answers which could lead to cheating/plagiarism

Tentative Schedule

Week	Topic	Assessment
1	Introduction	
2	Vanilla NNs - Part 1	
3	Vanilla NNs - Part 2	
4	MLP - Part 1	
5	MLP - Part 2	
6	CNNs - Part 1	Quiz 1
Recess		
7	CNNs - Part 2	Coding test 1
8	RNNs - Part 1	
9	RNNs - Part 2	Quiz 2
10	ANNs - Part 1	
11	ANNs - Part 2	Coding test 2
12	Conclusion	
13		Project delivery

NNs = Neural Networks
MLP = Multi-Layer Perceptron
CNNs = Convolutional Neural Networks
RNNs = Recurrent Neural Networks
ANNs = Attention Neural Networks

Forum

How we should prepare for the quizzes?

Posted by **LAW ANN LIAT LARRY** on 18 Aug 2021 10:27 am. Last modified on 18 Aug 2021 12:09 pm.

Hi Prof Xavier. Can I ask for your advice on how we should prepare for the quizzes? While tutorials or past year papers will be much appreciated, I understand it can be difficult to prepare them as CS5242 is a higher level module. However, a flavour of what's important and how they'll be tested will be very helpful in our preparation.

Thank you!

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CS5242 Evaluation

- This module is 100% CA, i.e., there is no final exam.

- There are 3 components:

  - 2 quizzes, each 15% (Weeks 6 & 9). The quizzes are individual. There is no makeup quiz. The weight of quizzes is 30% in total.

  - 2 coding tests, each 20% (Weeks 7 & 11). The coding tests are individual. Check the schedule for the date of each coding test. There is no makeup coding test. The weight of quizzes is 40% in total.

  - 1 group project, 30% (Week 13). Check the schedule for the date of the project delivery. The project is group-based with a group size of at most 3. Choose your group wisely -- each teammate must contribute equally to the project. Each project will deliver a python notebook with the code and the description of the project (in Markdown), and a short video presentation (each student will present her/his contribution to the project).

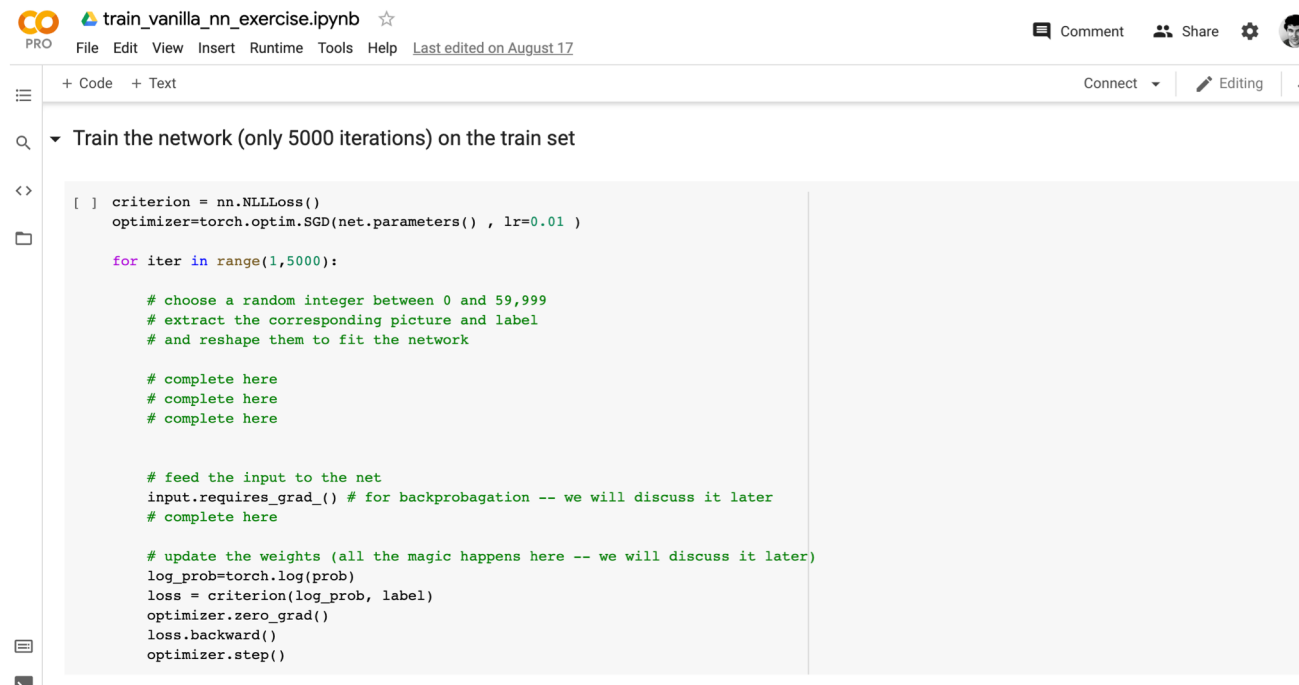   - I will introduce the project on Week 6.

Quizzes

- Quizzes (not yet formalized):
  - Time: 1-1.5hr during Tue 6:30pm-9:30
  - The test will cover all material from beginning up to the week before.
  - The test has 10 questions, from easy, intermediate to difficult questions.
  - The 10 questions will be provided in LumiNUS.
  - Open-book exam : You can use any material (internet, etc).
  - Individual test
    - It would require recording your screen and you (desktop and mobile zoom).
  - Questions will focus on the understanding of the fundamental concepts of deep learning techniques.
  - Possible questions
    - How do you parallelize matrix-matrix multiplication operations?
    - Define a new Softmax function without using the exponential function.

Coding Tests

- Coding tests (not yet formalized):
  - Time: 1-1.5hr during Tue 6:30pm-9:30
  - The test will cover all material from beginning up to the week before.
  - The test has 10 questions, from easy, intermediate to difficult questions.
  - The 10 questions will be provided in a Python Notebook (similar style to course exercises).
    - Answers must be given in the python notebook.
    - It is your responsibility to make sure you can run the python notebook on any platform you choose to use.
  - Open-book exam : You can use any material (internet, etc).
  - Individual test
    - It would require recording your screen and you (desktop and mobile zoom).
  - Questions will focus on the understanding of the fundamental concepts of deep learning techniques, and their implementation with PyTorch.
  - Possible questions
    - Implement and run a new Softmax function using the logarithmic function?
    - Implement and run a vanilla neural network on the classes of Fours and Nines?

Coding Tests

Questions?