The First



Deadline: 12 February 2022 (11:59pm)

Task is to write a critical review

Reading research papers is crucial for ML & Deep Learning fields.
In the next slides, you can see 2 famous papers, and you need to choose one of them. Please read this paper carefully, then write a critical review.
☐ The critical review needs to be 2 pages (maximum).
 Your critical review should have the following sections: Introduction: usually one paragraph, present the aim of the paper, and conclude the introduction with a brief statement of your evaluation (positive or negative). Summary: Present a summary of the key points along with a limited number of examples.
 □ Critique: A balanced discussion and evaluation of the strengths, weakness and notable features of the paper. Please share your own opinions. [very important] □ Conclusion: Restate your overall opinion, provide recommendations. □ References: If you have used other sources in you review you should also include a
list of references at the end of the review.

https://www.student.unsw.edu.au/structure-critical-review

Option 1

The first paper that describes an effective way of training a deep neural network

A fast learning algorithm for deep belief nets *

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Abstract

We show how to use "complementary priors" to eliminate the explaining away effects that make inference difficult in densely-connected belief nets that have many hidden layers. Using complementary priors, we derive a fast, greedy algorithm that can learn deep, directed belief networks remaining hidden layers form a directed acyclic graph that converts the representations in the associative memory into observable variables such as the pixels of an image. This hybrid model has some attractive features:

 There is a fast, greedy learning algorithm that can find a fairly good set of parameters quickly, even in deep networks with millions of parameters and many hidden layers.

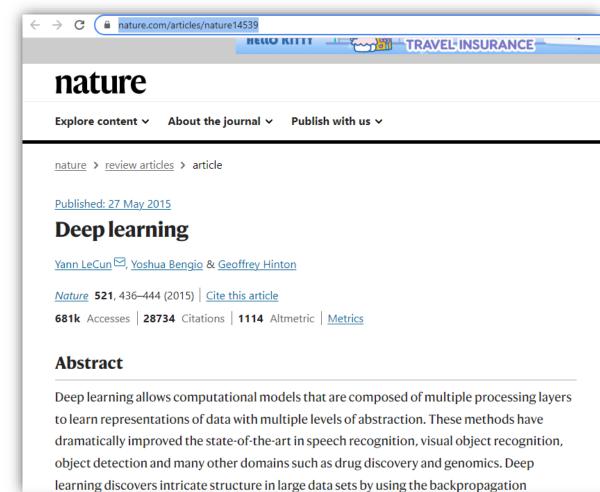
Option 2

A famous deep learning overview paper (A very nice summary)

Deep learning

Yann LeCun, Yoshua Bengio & Geoffrey Hinton





https://www.nature.com/articles/nature14539.pdf

Conclusion

- Please note that these are the very important deep learning papers published in the past years.
- These papers can be seen as the <u>building blocks</u> of the deep learning field.
- My suggestion for those who are interested, is to read both of these papers and understand the basic idea behind them. However, please only submit review for **one of them**.
- In the following weeks, you'll receive another list of papers for CNN and RNN/LSTM.
- Please submit a <u>PDF document</u> with your name and student ID.

The instructor will use plagiarism software and all submissions must be submitted individually. Plagiarism will not be tolerated.