

PSRS Teachers Meeting

19/06/2024 online

Participants : 14

N.Destouches, A.Naït-Ali, C. Fournier, C. Ricciardi, A.Simonnet, H. Zein, M. Kuittinen, M. Mäkinen, M. Roussey, N. Heikkila, P. Vahimaa, Arnaud Meyer, Ana Gebejes, Sylvain Girard

Agenda :

- 10:00 : Short presentation of participants
- 10:10 : Presentation from Amine Naït-Ali (UPEC)
- 11:20 : Questions

After a short introduction of the participants, Prof Amine Naït- Ali starts his presentation on the following topic :

“ From LLMs to ChatGPT in Action for Educational Purposes”

Definition

Definition of Language Models (LMs):

A language model is a statistical or machine learning model that is trained to predict the next word or sequence of words in a sentence based on the preceding words.

It captures the probability distribution over word sequences.

Definition of Large Language Models (LLMs):

A type of language model that has been trained on a vast amount of data and typically consists of billions of parameters, allowing it to generate highly coherent and contextually relevant text. Examples include GPT-3 and BERT.

Language models is based on predictions and probabilities. The basic is made of Input layers/hidden layers and Output layers. The more Hidden layers, the more complex is the neural network.

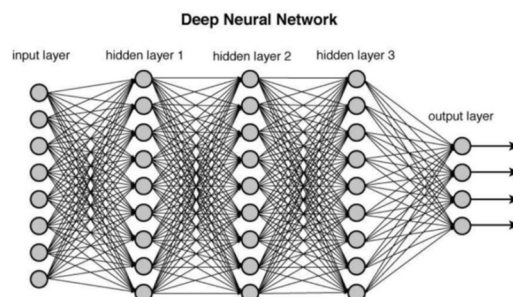
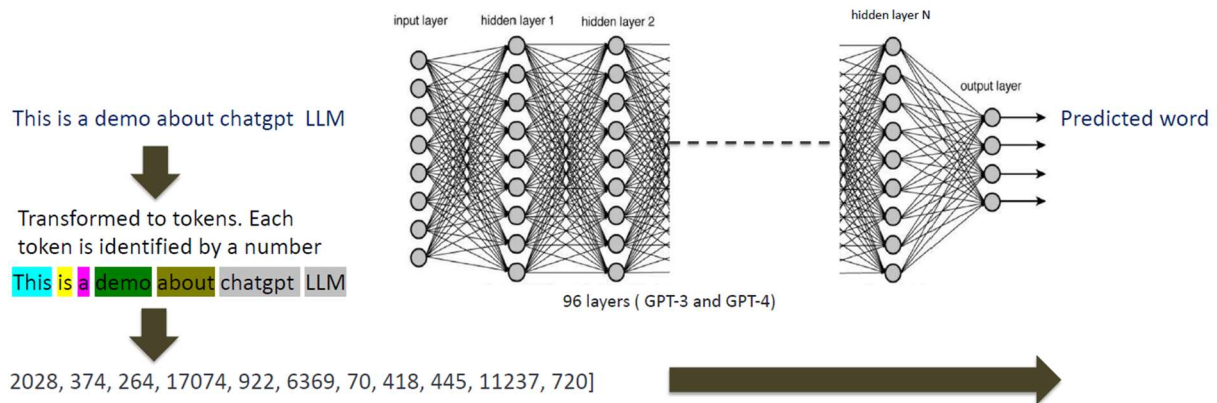


Figure 12.2 Deep network architecture with multiple layers.

LLM is more complex in terms of hidden layers, quantity of informations we can process ; you have to enter a data and try to get a sequence. The question is transformed into Tokens, each identified by ID or number. Tokens can be thought of as pieces of words. Before the API processes the request, the input is broken down into tokens.



Problem : capacity of handling large information to process predictions. It is not only AI but mostly statistics..

ChatGpt

Chat Gpt (generative pretrained transformer) is a LLM 96 layers.

The first version has been released in 2018 (117 million of parameters), and been upgraded since then to reach the GPT-4 version in 2023 ; this version gathers around 1 trillion of parameters which capabilities are : Expected advancements in all areas of natural language understanding and generation, making even more human-like interactions possible and improved multimodal capabilities (processing both text and images).



Figure 3: LLM development timeline. The models below the arrow are closed-source while those above the arrow are open-source.

Chat GPT allows to practice “fine-tuning”, when the pre-trained model is further trained on a smaller specific dataset to get an improved performance, reduce resource usage and get a customized model.

Let’s talk technic which is not ethics; what is technically possible cannot erase ethic considerations and Gpt require caution when using it. There are some European regulations about this and there will be more in the future for sure.

Something good is that we can retrain the model with specific datas and get a customized model instead of general model.

The main task is creating an effective **prompt** ie an input text or question provided by a user that initiates or guides the response from the model. It must define clear objectives, provide context, be specific and incorporate examples if necessary.

Example : Gpt, a community is working on different specific GPT’s / the PSRS video by Christeena Paul Kallukaran- M1 Student. 4th cohort.

Discussion

The main question is raised by Carlo Ricciardi, Polito but everyone wonders : How Students are allowed to use Chat Gpt ? In some university, students will have to present the prompt they used and be judged on it. Then, it depends on the fields. How the tools are used and if the student can create something, it is ok to go faster thanks to chat Gpt but not just copy/ paste it. Be careful to fake information, LLM can't be 100 % trusted.

Matthieu Roussey at UEF also wonders if can we ask Chat Gpt if a text has been written by it (or any AI) ?

Then, everyone agrees on the idea that everything depends then on what we want to evaluate and how it will be evaluated.

Pasi Vahimaa (Uef) : AI (especially Chat Gpt) is just a tool and Students should be trained to use it because they will eventually use them in their studies and in their professional life (how to make the prompt and analyse the answers)

Amine Naït- Ali (Upec): Indeed, Chat GPT is always a window open on PCs' companies, because there is always something to ask.

Nathalie Destouches (UJM) : It is ok to use a Gpt when you are an expert in the field; what about students? How to help them learning how to analyse answer, detect errors... How do we evaluate ? did the student learn something ?

Amine Naït-Ali suggests: the evaluation can be made by discussing with the student about the work, how he/she thinks, and by asking questions about what he/she understood, how he/she got there ;

Nathalie Destouches (UJM) : There are some courses with no oral presentation. What about students who know nothing in the field, how teach them to use chat Gpt?

Amine Naït -Ali : Students are aware that they can't rely 100% on the answers (so ask questions : why did you say this? Can you give references ? are you sure ?)

In general, the Teachers' role is to help students to develop critical thinking.

Pasi Vahimaa asks again : how to learn and motivate ?

Then Amine Naït-Ali presents "Alex", Upec's virtual assistant, gathering datas about students,campus, teachers.. available only for students and authorized persons.

Nathalie Destouches ask if we can create our own Gpt for PSRS to assist with a lot of administrative tasks (e.g : repetitive questions). I

Amine Naït-Ali : it wouldn't be free for us and the students; that why they created Alex at Upec (the virtual assistant), but it is possible, just give some datas.

End at 12.00