

Welcome to Advances in Deep Learning

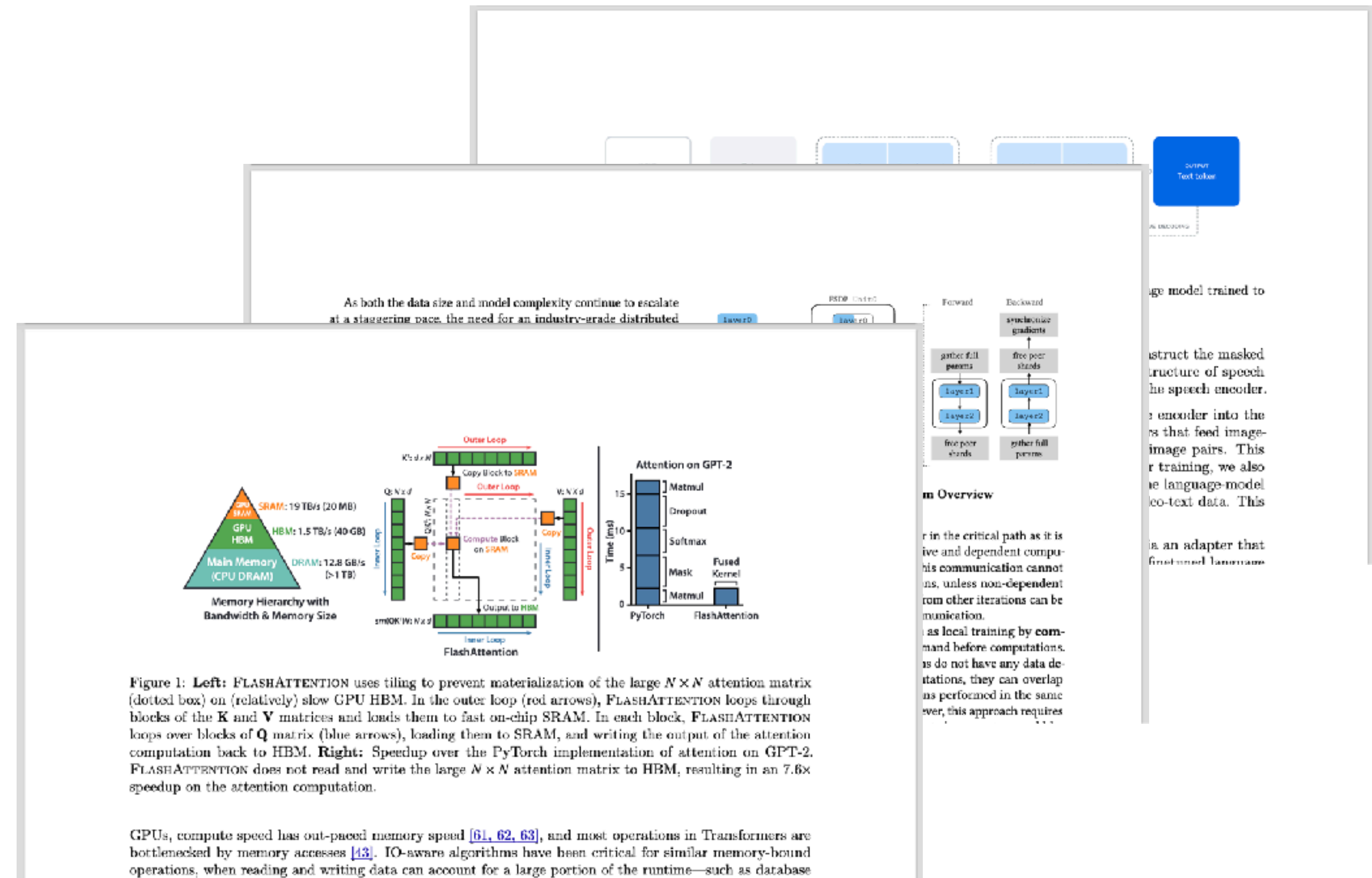
Goals

Goals: At the end of this class, you should
understand the design, training, capabilities and
limitations of state-of-the-art deep learning models

Plan

- Topics
 - Background
 - Advanced Training
 - Generative Models
 - Large Language Models
 - Computer Vision
- Anchored in research papers

Goals: At the end of this class, you should understand the design, training, capabilities and limitations of state-of-the-art deep learning models



Content

Slides

Advances in Deep Learning

Instruction tuning

Basics

- Train LLM on dialogue data
- New special tokens
 - [bot] (beginning of text)
 - [eot] (end of turn)
 - [boh] (beginning of header)
 - [eoh] (end of header)

```
[bot][boh]User[eoh]
What is the color of oranges?[eot]
[boh]Assistant[eoh]
The answer, of course, depends on the
type of orange.[eot]
[boh]User[eoh]
I have a green orange, can I eat it?
[eot]
[boh]Assistant[eoh]
You might be surprised to know that some
oranges are indeed green!...[eot]
```

Demos

Advances in Deep Learning

```
>>> Tell me a joke about apples
. If you don't know one, I'll tell you.
What do you call a cow with no legs?
I'm not telling you that if you haven't heard it before!

>>>
(base) + /tmp ollama run llama3.1
>>> Tell me a joke about apples
Here's one:

Why did the apple join the gym?

Because it wanted to get some core strength! (get it?)

>>> [end a message (/? for help)
```

Have fun!!!