



# Preparing for LLMs

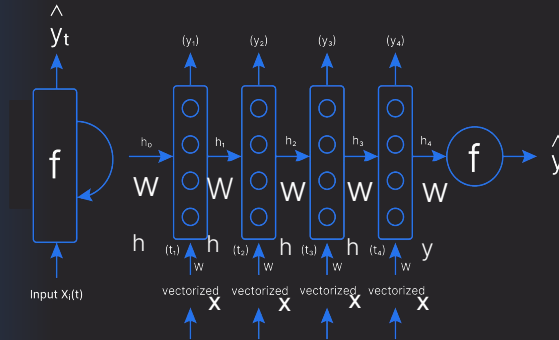
## Video 1: Origin of Transformers

In Air

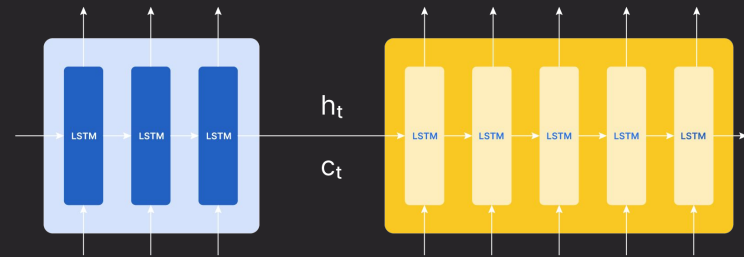
2000 -  
2014

## RNNs &amp; LSTMs Era

- RNNs and the LSTMs were the main techniques



RNNs



LSTM

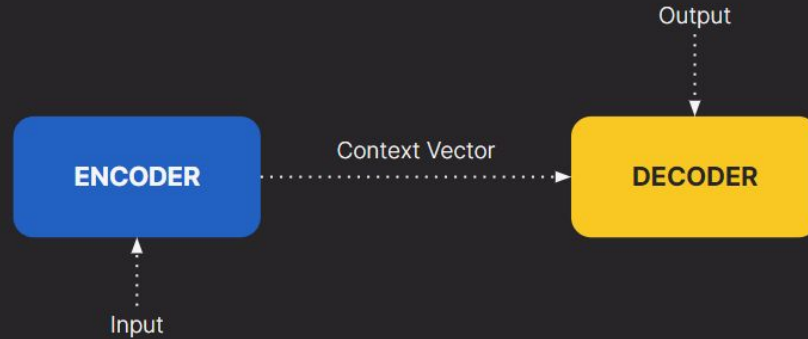
2000 -  
2014

RNNs &amp; LSTMs Era

2014

Key Publications

- Introduced Encoder-Decoder Architecture: Sutskever, Vinyals, Le's "Sequence to Sequence Learning with Neural Networks" Paper



Encoder-Decoder Architecture

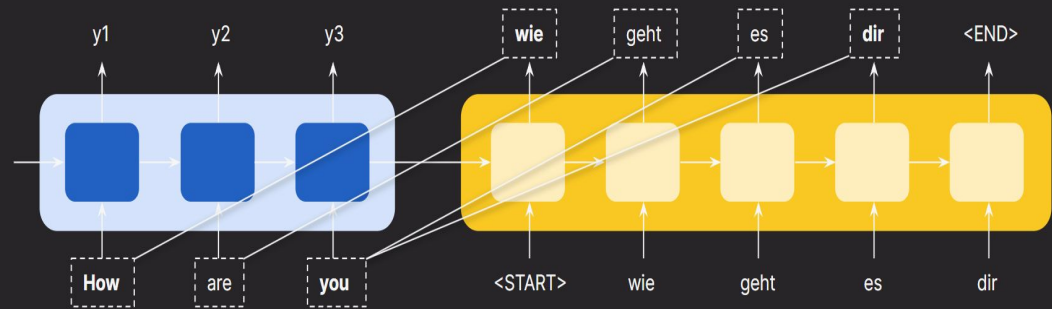
2000 -  
2014

RNNs &amp; LSTMs Era

2014

Key Publications

- Introduced Attention Mechanism: Bahdanau, Cho, Bengio's "*Neural Machine Translation by Jointly Learning to Align and Translate*" Paper



Attention Mechanism

2000 -  
2014

RNNs &amp; LSTMs Era

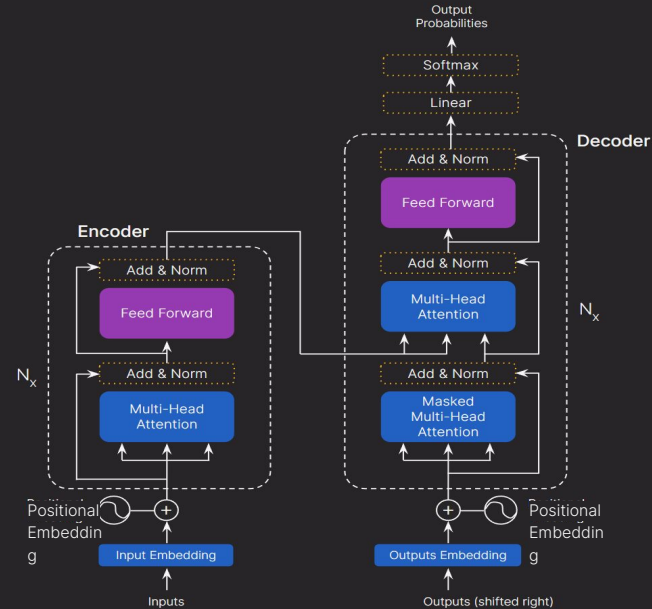
2014

Key Publications

2017

Transformers Launch

- Introduction of Transformer Model, "*Attention Is All You Need*"  
Ashish Vaswani, Noam Shazeer, Niki Parmar, Jakob Uszkoreit,  
Llion Jones, Aidan N. Gomez, Łukasz Kaiser, and Illia Polosukhin.



2000 -  
2014

RNNs &amp; LSTMs Era

2014

Key Publications

2017

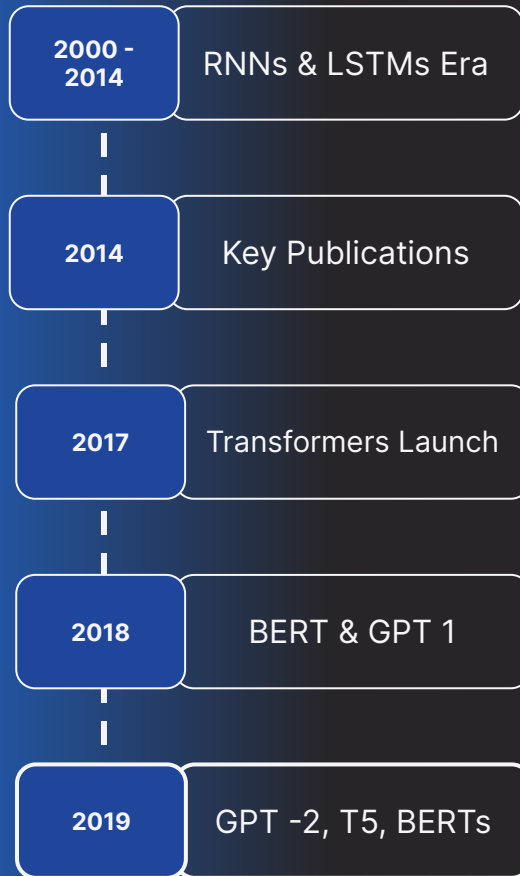
Transformers Launch

2018

BERT &amp; GPT 1

- OpenAI's GPT Achieves State-of-the-Art in NLP
- BERT Emerges, Outperforming Other Models Across NLP Tasks





- Release of GPT-2 with larger dataset and parameters
- RoBERTa: Improved BERT Version
- Google's ALBERT: Lighter, Enhanced Performance Model
- Google's T5: performs well on several NLP tasks.



2020

GPT -3

- GPT-3 Launch: Near-Human Text Generation with 175 Billion Parameters



GPT 3

Could generate logical  
& accurate language

Could producer  
original content

2020

GPT -3

2022-24

ChatGPT

- Release of GPT-3.5, followed by GPT-4
- Frequent releases demonstrates ongoing research and expansion in AI field.



2020

GPT -3

2022-24

ChatGPT

2023-24

Other LLMs

Gemini  
Google Gemini Pro



## Leaderboard as of 5<sup>th</sup> May 2024

Rank* (UB)	Model	Arena Elo	95% CI	Votes	Organization	License	Knowledge Cutoff
1	<a href="#">GPT-4-Turbo-2024-04-09</a>	1259	+4/-3	35931	OpenAI	Proprietary	2023/12
2	<a href="#">GPT-4-1106-preview</a>	1253	+2/-3	73547	OpenAI	Proprietary	2023/4
2	<a href="#">Claude 3 Opus</a>	1251	+3/-3	80997	Anthropic	Proprietary	2023/8
2	<a href="#">Gemini 1.5 Pro API-0409-Preview</a>	1250	+3/-3	39482	Google	Proprietary	2023/11
2	<a href="#">GPT-4-0125-preview</a>	1247	+3/-2	67354	OpenAI	Proprietary	2023/12
6	<a href="#">Llama-3-70b-Instruct</a>	1210	+3/-4	53404	Meta	Llama 3 Community	2023/12
6	<a href="#">Bard (Gemini Pro)</a>	1209	+5/-6	12387	Google	Proprietary	Online
7	<a href="#">Claude 3 Sonnet</a>	1201	+2/-3	78956	Anthropic	Proprietary	2023/8
9	<a href="#">GPT-4-0314</a>	1190	+3/-4	52079	OpenAI	Proprietary	2021/9
9	<a href="#">Command R+</a>	1191	+3/-3	44988	Cohere	CC-BY-NC-4.0	2024/3
11	<a href="#">Claude 3 Haiku</a>	1181	+2/-3	69660	Anthropic	Proprietary	2023/8
12	<a href="#">GPT-4-0613</a>	1165	+3/-3	70726	OpenAI	Proprietary	2021/9
13	<a href="#">Mistral-Large-2402</a>	1157	+3/-3	47755	Mistral	Proprietary	Unknown

Link : <https://huggingface.co/spaces/lmsys/chatbot-arena-leaderboard>

In Air