**CHAT GPT – An Overview**

Chat GPT is a type of Natural Language Model known as Chat Based Generative Pretrained Transformer.

NLP Examples: Auto correct, Auto suggest etc.

NLP is a subfield of AI that enables computers to understand, interpret and Generate human language. NLP is the core of Chat GPT.

Let’s take an example:

I am learning about ChatGPT right now.

1. **SEGMENTATION**

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0 1 2 3 4 5 6

1. **TOKENIZATION (regulated format)**

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1. **Stop Words (reduces redundant words without changing meaning)**

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1. **Stemming (removes suffixes and prefixes without changing the meaning)**

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1. **Lemmatization (reduces the words to their dictionary form)**

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1. **Speech Tagging (Noun pronouns verb adjectives)**
2. **Named Entity Recognition (identify and classify named entities)**

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This understanding is typically depicted by numbers on vectors.  
  
**How GPTs Work?**

GPT means Generative Pretrained Transformer.

Generative means the model can generate something.

Pretrained means the model is trained beforehand and note that the more you chat with the model, it does not get any better as it is pretrained on a snapshot of Internet with the data cut off in September 2021

Transformer is what seperates ChatGPT from others. Let’s learn more about it.

Transformer has two parts: **Encoder and Decoder**.

Encoder has the NLP and the converted data in the form of numerical and vectors go to decoders where Sequence to Sequence Transformation.

In layman terms, Transformers rate the vectors in a sentence to figure out which vector needs more attention. Hence it is known to work on an self attention mechanism. Since it acts similar to english as in english as well, some words are more important than others in a sentence.

**HOW CHATGPT WAS TRAINED?**

Initial model was trained on Supervised Fine Tuning where the humans write the prompt as well as the answers prompt. It’s like your math teacher teaching you a math problem while you are just sitting there watching him and trying to wonder what’s going on?

OpenAI also used Reward Model where a question prompt was served with 4 answers prompts where each answer prompt had a different ranks from best to worst. Data is then fed to the model.

Last step was just to Optimizing a policy against the reward model. Here the model tries to teach itself how to get better. Known as Reinforcement Reward Learning.

That is how Chat GPT became what we know it as today.