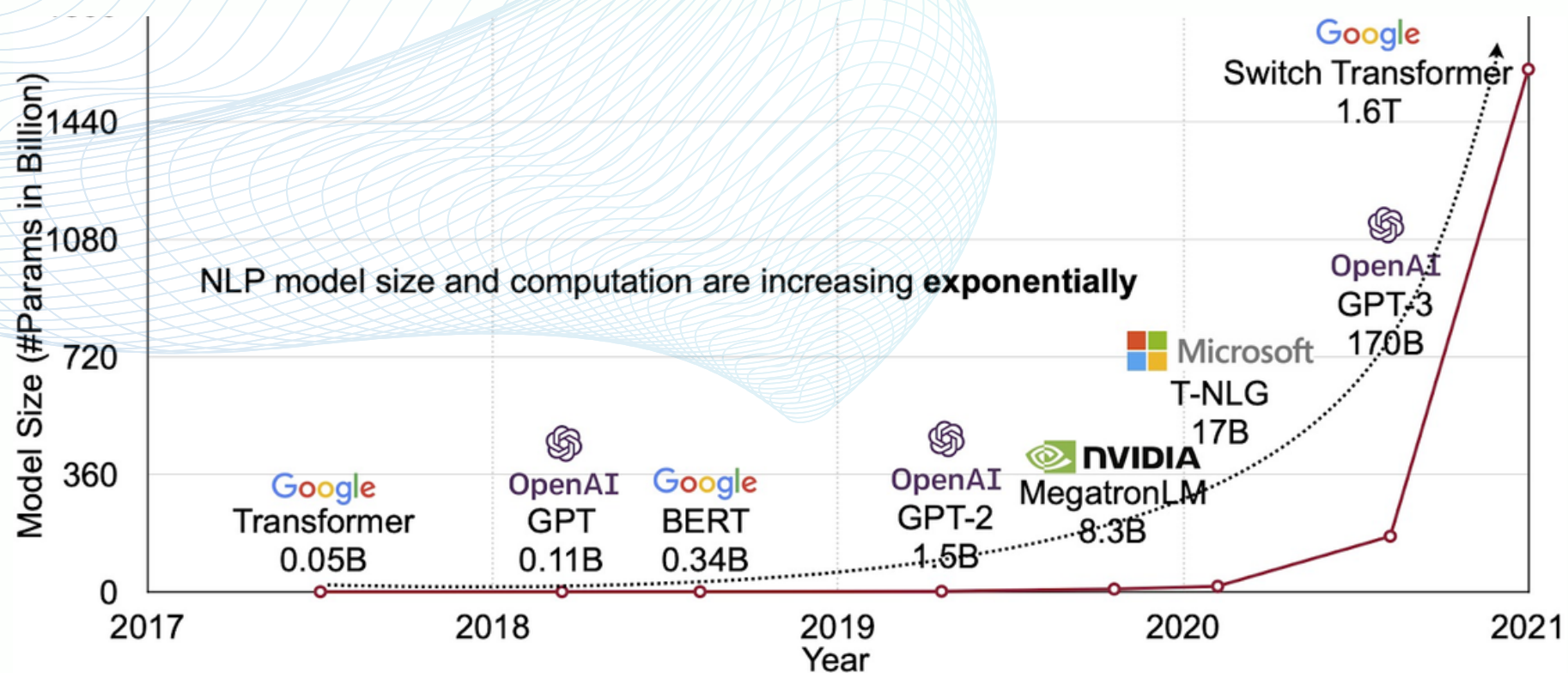


Parameters in LLMs



- Parameters are the **internal variables** that the algorithm adjusts during training.
- In deep learning, parameters are often the **weights and biases** within the neural network layers.
- Picture a neural network with a single hidden layer. At this level, **each connection between nodes and the biases of individual nodes constitutes a parameter.**

Parameters in LLMs

- These parameters are **learned during the training process by adjusting their values** to minimize the model's loss function on a given task.
- The parameters **capture the knowledge and patterns** the model has learned from the training data.
- Increased parameters translate **to a model's capacity to capture intricate data features**. This ability to delve into the data's depths empowers the model to unravel hidden insights and make more accurate predictions.
- As algorithms **iteratively refine parameters**, models become finely tuned instruments.

Parameters in LLMs

- **In more technical terms**, the parameters of an LLM like GPT-3.5 include:
 - **Embedding Parameters:** These are the **weights** associated with the input tokens, which are used to convert token indices into continuous vector representations (embeddings). Each token in the vocabulary has an associated embedding.
 - **Attention Parameters:** LLMs use self-attention mechanisms **to weigh the importance of different words** in a sequence when making predictions. These attention parameters determine how much attention is assigned to each word relative to others in the context.