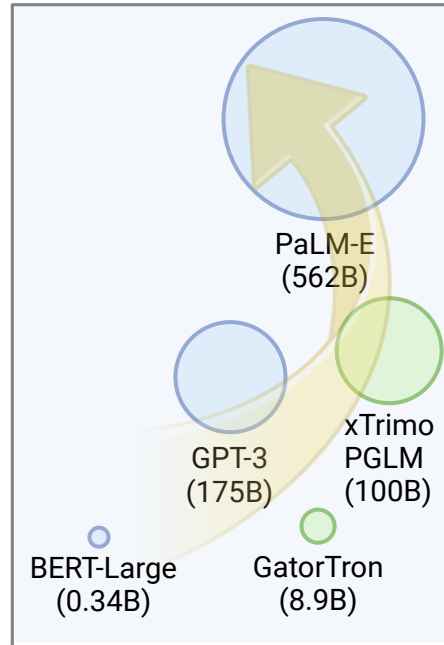


Large AI Models: Key Features and New Paradigm Shift

A. Model Size

There has been a trend of increasing the number of parameters of a model (tens of billions is common for LLMs)

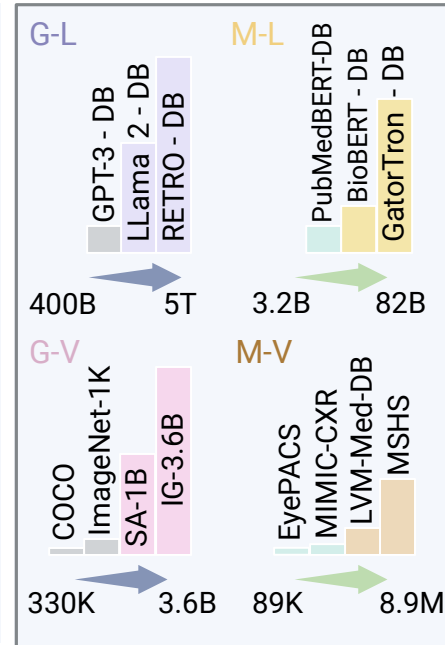
- : Large AI Models in General Domain
- : Large AI Models in Health Informatics



B. Data Scale

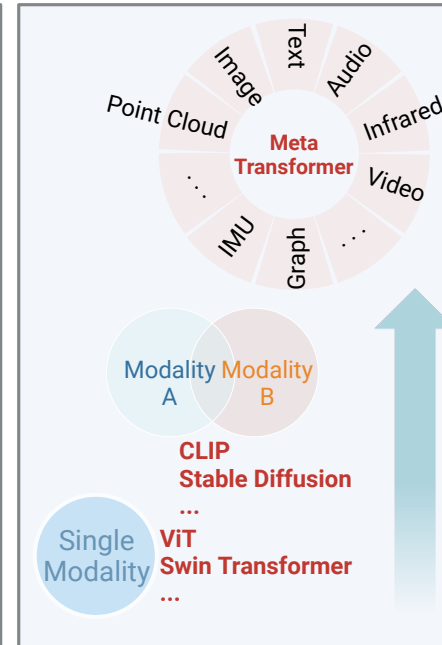
Data has been scaled up, but the medical data scale is much smaller than that of general domain data

- G-L : General Lang. M-L : Medical Lang.
- G-V : General Vision M-V : Medical Vision



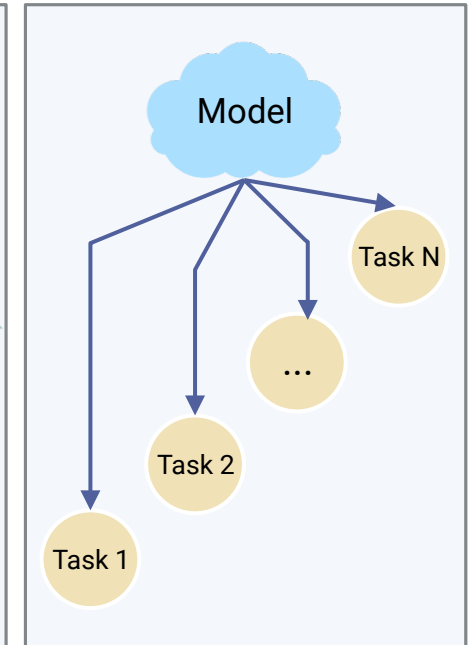
C. Number of Modalities

With increased model capacity, and advances in multi-modal learning, the number of modalities a large AI model can process is expanding



D. Versatility on Downstream Tasks

As often called foundation models, large AI models can exhibit generalist /emergent intelligence, and show impressive performance in multiple downstream tasks, esp. **zero-shot**, **one-shot**, and **few-shot** tasks



Paradigm Shift

Before:

- 1) Limited-scale model size; 3) Limited generalization.
- 2) Limited-scale training/pre-training;

Large AI Models:

- 1) Large-scale model size; 3) Large generalization.
- 2) Large-scale training/pre-training;