

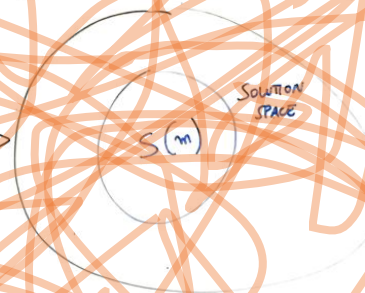
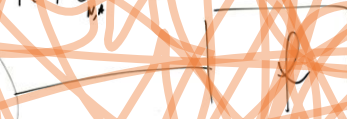
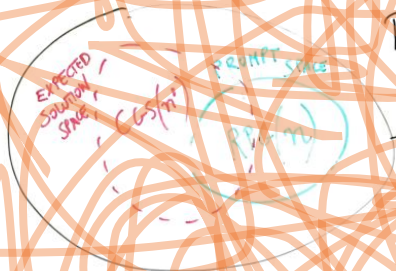
LANGUAGE SPACE

$$\Phi(n) = \mathcal{P}_N(A)$$

$$A = \{P_1, \dots, P_m\}$$

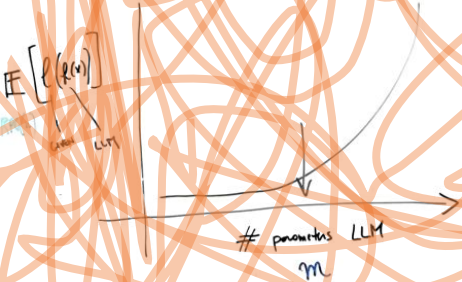
OUTPUT SPACE

$$RPG(n) = \mathcal{P}_N(A), CGS \in \mathcal{P}_N(A)$$



Define $\ell: CGS(n) \rightarrow \mathbb{R}$: $\ell(x)$ quantifies performance of map f on a problem $x \in RPG(n)$

e.g. x is a task of a BENCHMARK and ℓ is a metric



For some $m^* \in \mathbb{R}$

$$\mathbb{E}[l(x)] \text{ goes to } + \text{ on } \max_{x \in RPG(n)} l(x)$$

m is size of a LINEAR BASIS spanning linear spaces $S(n)$



number of neurons in a FULLY-CONNECTED NEURAL NETWORK

$\Phi(n)$ is a KNOWLEDGE GRAPH (CONCEPTNET) so you can quantify amount of information based on number of nodes and associations (links)

LLM: 10^{11} params

Oxford has 10^5 entries