Future of NLP + Deep Learning

GPT-1 : Improving Language Understanding by Generative Pre-Training

GPT-2 : Language Models are Unsupervised Multitask Learners

GPT-3 : Language Models are Few Shot Learners

Meta-learning
- 사람이 통제하던 기계 학습 과정을 자동화함으로써 기계 스스로 학습 규칙(메타지식)을 익힐수 있게 하는 방법론

Limitations
1. Do poorly on more structured problems that involve decomposing into atomic/primitive skills
2. Performing permanent knowledge updates interactively is not well suited.
3. Doesn't seem to exhibit human like generalization
4. Language is situated and GPT-3 is merely learning from text without being exposed to other modalities

Compositional Representations and Systematic Generalization

- Systemacity (체계성) : 사람이 이해하는 문장들 간엔 확실하고 예측 가능한 패턴 有
- Compositionality (구성성) : 한 표현의 의미는 그 표현을 차지하는 구성 요소들의 의미와 구조로 구성

Compositional Representation

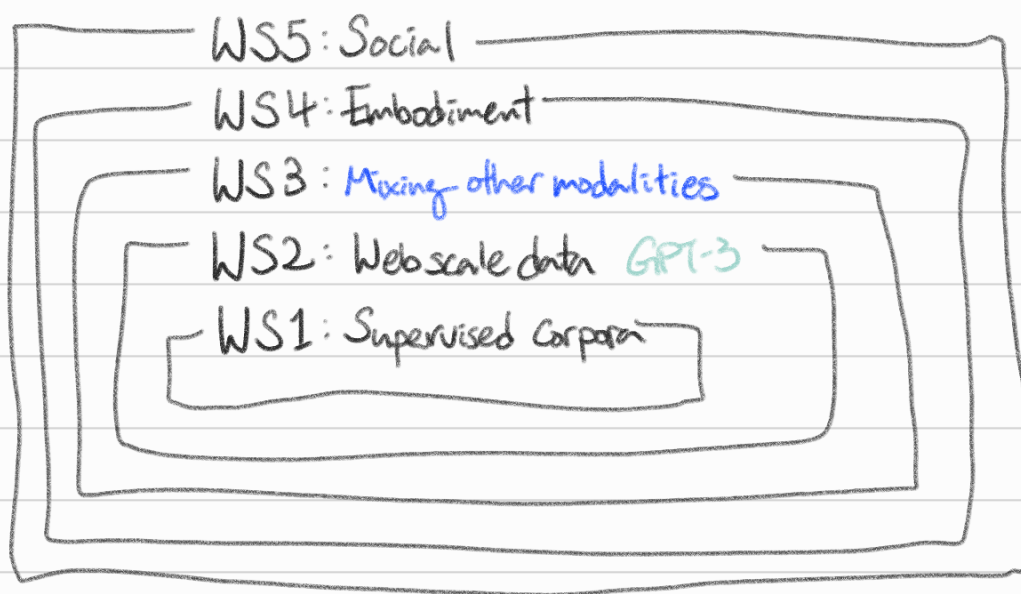### Atoms → Compounds

Systematic Generalization

Scale ↑ (완전한 해결책은 아님)

Improving how we evaluate models in NLP

Build (Break Fix) 반복
∴ 사용자의 공격적인 언어에 강건한 모델

Grounding Language to other modalities

WS5: Social
WS4: Embodiment
WS3: Mixing other modalities
WS2: Web scale data GPT-3
WS1: Supervised Corpora

WS: Word Scope