Opportunities & Responsibilities

Big Models

A foundation model is any model that is trained on board data at scale and can be adapted (e.g. fine-tuned) to a wide range of downstream tasks; current examples include BERT (2019), GPT-3 (2020), and CLIP (2021)

$\begin{cases} \text{input : arbitrary inputs} \\ \text{output : generate unpredictable} \\ \qquad \text{(frequently, useful) outputs} \end{cases}$

∨ Capabilities

(Issues) funhouse mirror

- ✓ harmful biases
- ✓ inappropriate responses
- ✓ dangerous responses
- ✓ potential for misuse and abuse
- ✓ difficult to interpret
- ✓ capability emergence via scale-up

development — useful traits emerge during training and need to be discovered post-training.

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28 May, 2020   GPT-3   OpenAI

26 April, 2021   Pan Gu   Huawei

11 August 2021   Jurassic-1-Turbo   AI 21 Labs

breakthrough → notable to people in the field

→ economically useful
and subsequently integrated
into business

- Expensive
- Babysitting
- Time

Leverage : information is power

Reduce asymmetries < Power
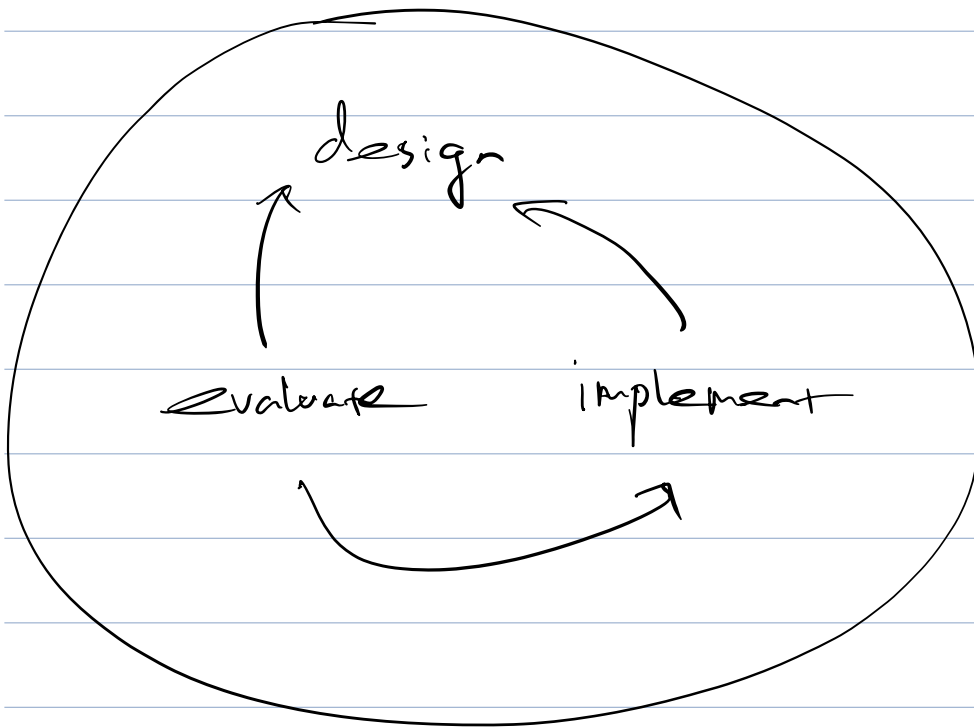   information

Threshold Effect

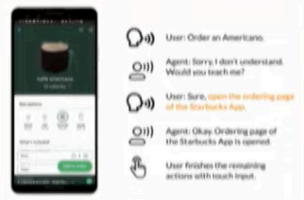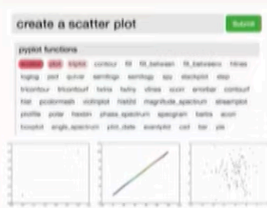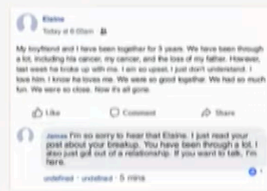## Threshold / Ceiling Diagram

difficulty of use

↑↓ lower

✓ Massive increases in adoption of medium

✓ wide proliferation of use cases

design

evaluate → implement

Ceiling: Sophistication of what can be created

Foundation Models for Laws

Labels are very expensive!

foundation Models ⟶ ✓ boost performance

　　　　　　　　　　✓ domain pretraining

　　　　　　　　　　✓ domain-specific FM performs best