

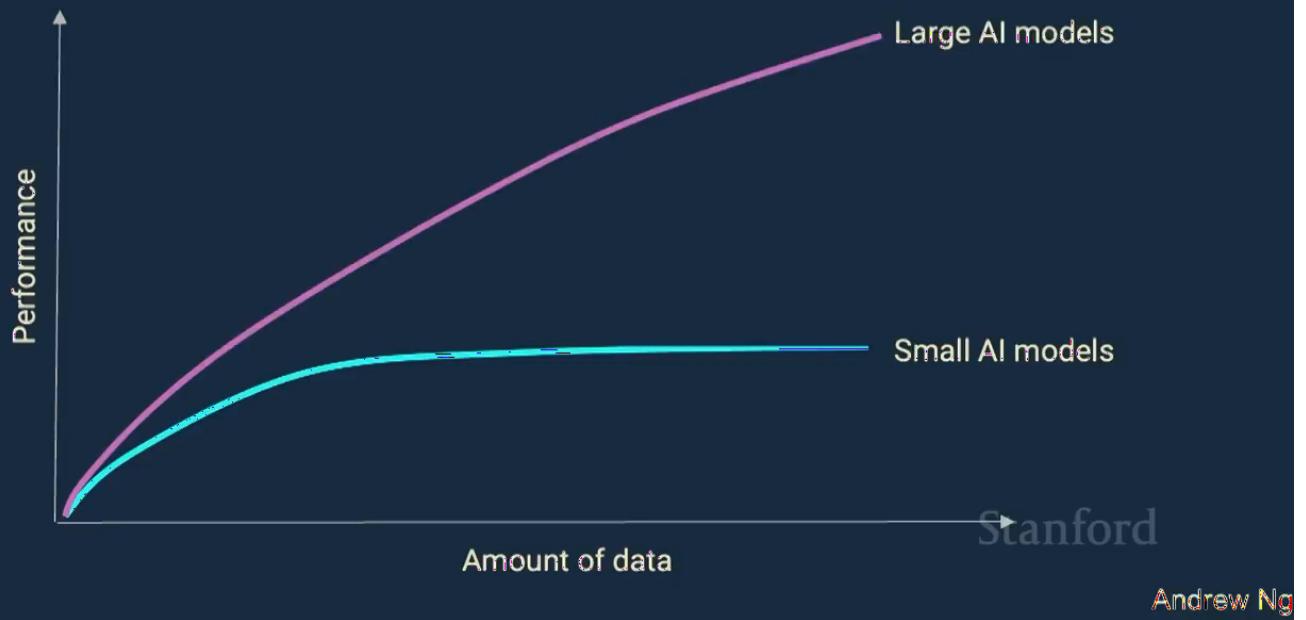


## Supervised Learning (labeling things)

Input (A)	Output (B)	Application
Email	Spam? (0/1)	Spam filtering
		Stanford

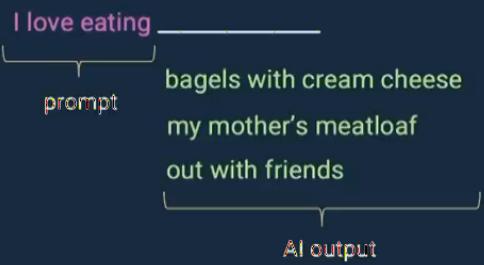
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## 2010-2020: Large scale supervised learning



# This decade: Generative AI

## Text generation process



## How it works

Generative AI is built by using supervised learning ( $A \rightarrow B$ ) to repeatedly predict the next word.





# Prompting is revolutionizing AI application development



Andrew Ng





# Value from AI technologies: Today → 3 years



Supervised learning  
(Labeling things)



Generative AI



Unsupervised  
learning

Reinforcement  
Learning

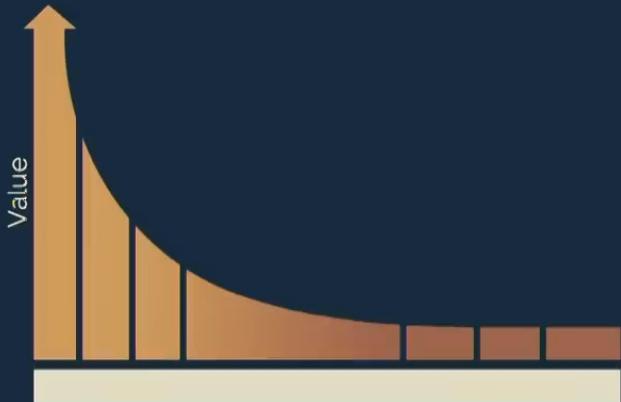
Stanford

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Why isn't AI widely adopted yet?  
Customization (long tail) problem and low/no code tools



All potential AI projects, sorted in decreasing order of value

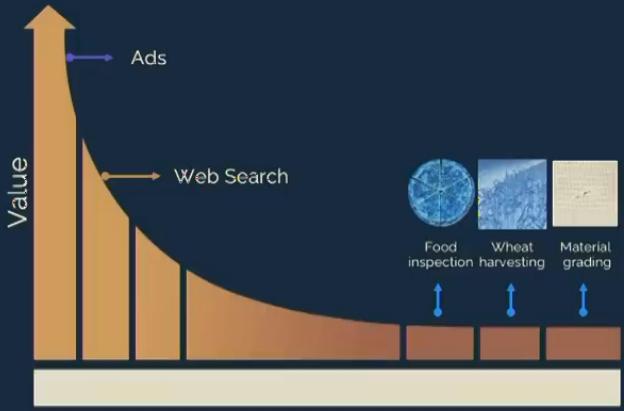


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# Why isn't AI widely adopted yet?

## Customization (long tail) problem and low/no code tools



All potential AI projects, sorted in decreasing order of value







# Opportunity from a new general purpose technology

- Many valuable AI projects are now possible. How do we get them done?
- *Starting new companies is an efficient way to do this.*
- Incumbent companies also have opportunities to integrate AI into existing businesses.

## The AI stack



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# Opportunity from a new general purpose technology

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## The AI stack

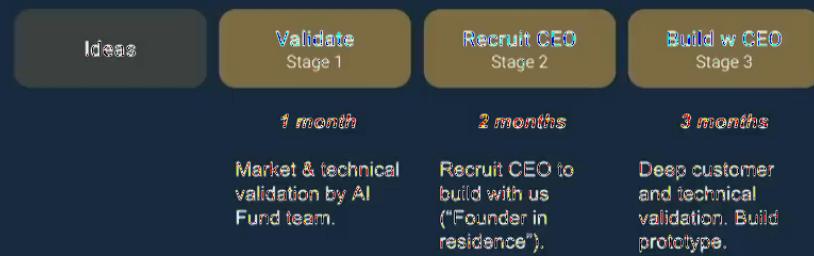


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# Process for building startups



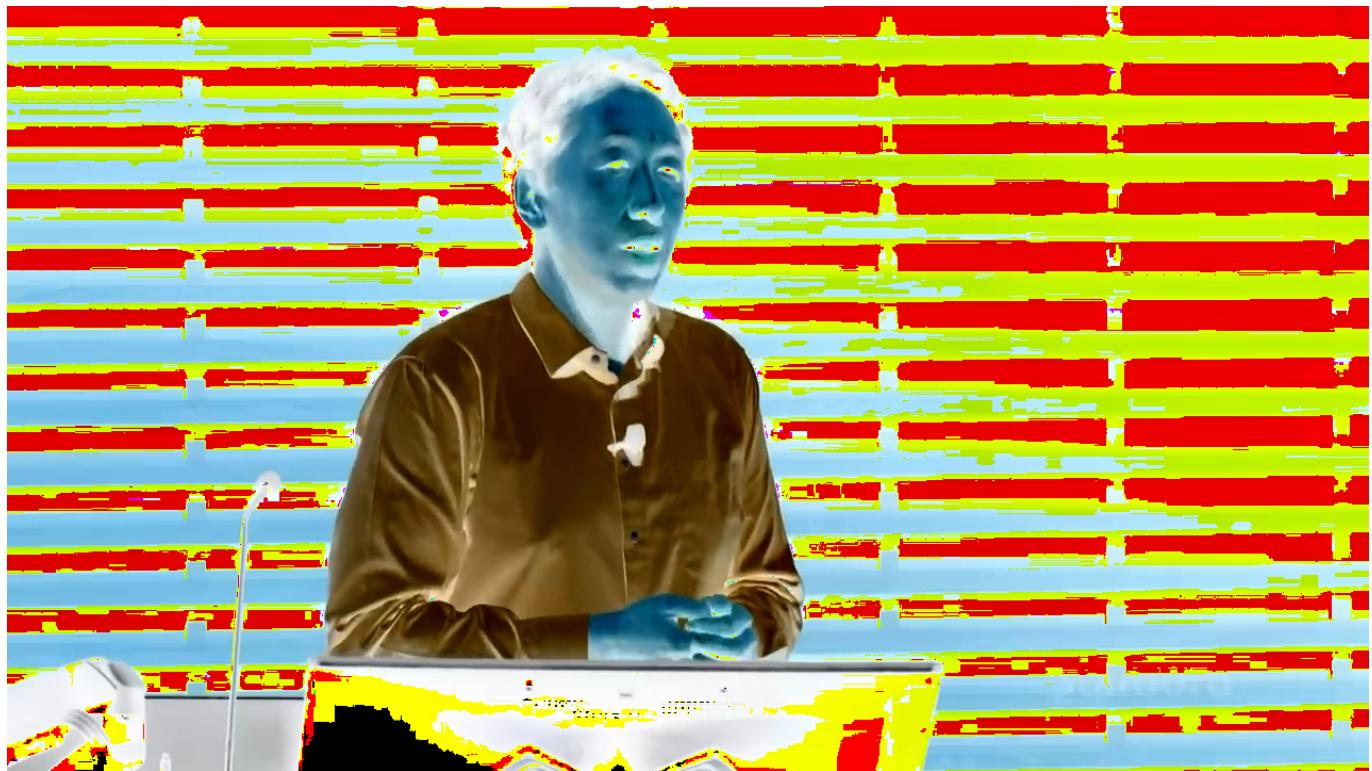
Green shipping powered by AI



Dylan Keil

Stanford

Andrew Ng



# Process for building startups: Concrete ideas

Ideas

Validate  
Stage 1

Recruit CEO  
Stage 2

Build w CEO  
Stage 3

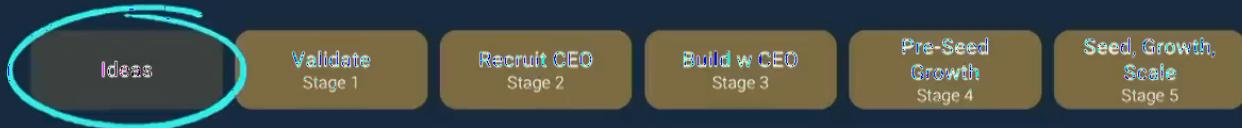
Pre-Seed  
Growth  
Stage 4

Seed, Growth,  
Scale  
Stage 5

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# Process for building startups: Concrete ideas



## Not concrete:

Apply AI to financial services. (Or logistics, supply chain...).

## Concrete idea:

BuyGPT eliminates commercials by automatically buying every product in every ad, in exchange for not having to see any ads.

## Concrete ideas:

- Can be validated or falsified efficiently
- Gives clear direction to execute
- Often from a subject matter expert who's deeply thought about a problem



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# Risks of AI

- AI today has problems with bias, fairness, accuracy, ... But the technology is improving quickly.
- AI will disrupt many occupations.



[Credit: Eloundou et al., 2023]



Andrew Ng



# Risks of AI

- Artificial General Intelligence (AI that can do anything a human can do) is still decades away.
- AI creating extinction risk for humanity is wildly overhyped.
  - Human society has ample experience steering very powerful entities (such as corporations and nation states).
  - AI develops gradually, and the "hard take off" scenario (where AI suddenly achieves superintelligence overnight) is not realistic.
- AI is an important piece of the solution to the real existential risks to humanity (the next pandemic, climate change, ...).

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