

Pyramid.

NLP ✓

why still hard?

✓ rlp data.

✗ download motor control signal



real robot data / 24h (day limit).

simulation data. / GPU.

internet data

GPT: (learn physical common sense)

++ noisy.

~~Simulation~~  
teleoperator

good limit.

# Principle No. 2 Matrix.

it's easier <sup>to</sup> simulate a prob than solve it.

? how to write a  $\pi^i$

self-generated data



RL.

Reward func

↳ behavior { desired  
x desired

multiply data



Imitation family

slow to collect.

1 human demo  $\Rightarrow$  \$\$\$  $\downarrow$  data.

how to multiply?  $\square \rightarrow$

$\begin{matrix} \square \\ \square \\ \square \\ \square \end{matrix}$

Visual augmentation.

param  $\Rightarrow$  cerebellum?

HOVER. Vastille controller.



how train

human demo  $\xrightarrow{\text{change configuration.}}$  machine-generated demo



Mimigen. mimigen  $\odot$   
mimigen.

motion generator

with it.

in  
robocasa.

task variation

filter out  
failing results.

if not

~~human teleoperate data~~  
trajectory X.

real  $\rightarrow$  sim  $\rightarrow$  real  
collect multiply. improve

# Principle No. 3

Foundation Agent - <sup>control</sup> single neural network  $\Rightarrow$  all types robot.

↓  
save time/human

↓  
Kinematic tree

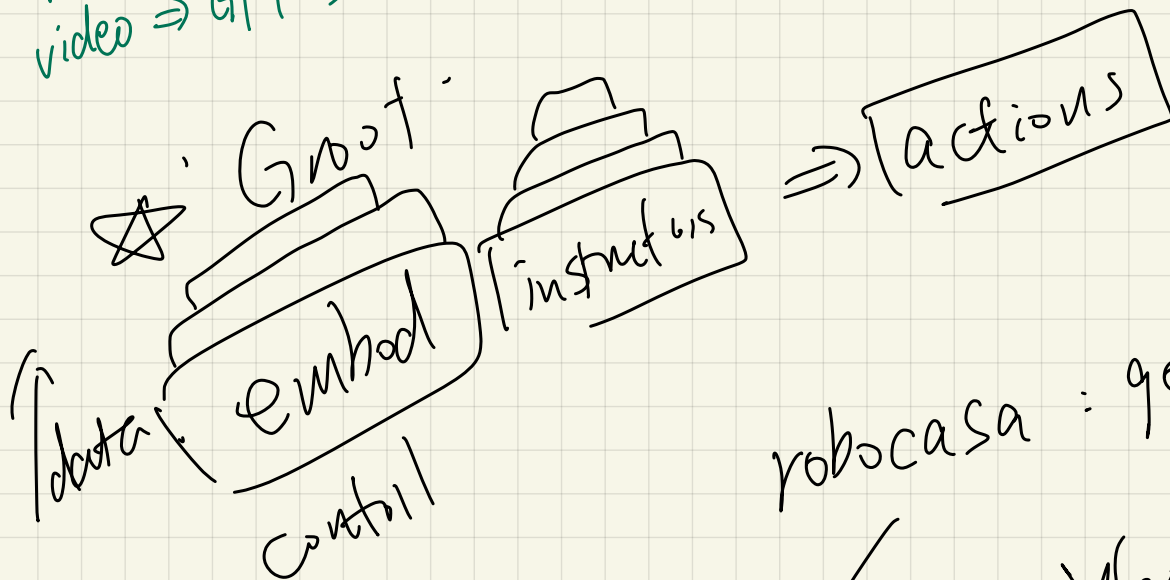
↓  
humanoid  
slightly diff.

sample  $\rightarrow$  code candidate

eureka

simulation  $\Rightarrow$  Dreweka - reality

pure-text feedback reasoning  
video  $\Rightarrow$  GPT  $\Rightarrow$  what's going on.



robocasa : generate tokens.

↑ eval.

DGX : learn token  $\xrightarrow{\text{inference}}$  Agx.  
deploy token