Research Goals

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What is Intelligence

"The intelligence of a system is a measure of its skill-acquisition efficiency over a scope of tasks, with respect to priors, experience, and generalization difficulty". - Francois Chollet.

Link: On the Measure of Intelligence

Questions I want to solve

- What are the general principles of intelligence?
- How to measure intelligence?
- If intelligence is a recipe, what are the key ingredients?
- Solving Moravec's Paradox
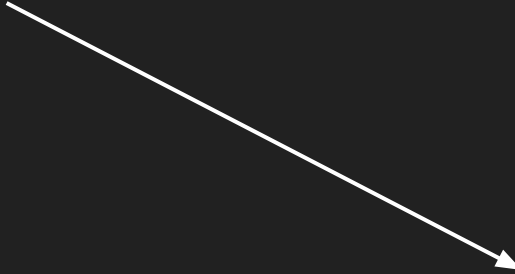- Robots which work

Plan

General Principles of Intelligence

Get inspiration from
Neuroscience Literature
On what to integrate into
new AI systems

Create new AI system taking
in consideration General
Principles of Intelligence

How to measure and
compare intelligence?

Test the Intelligence of the AI system

Currently what am I doing

-> Intensely exploring AI field by vigorously reading history of AI, tweets, blogs, talks of different AI researchers and gaining perspective and understand the quest for intelligence.

-> Through lots of exploration and deep thinking, I have developed many intuitions on what is needed for Intelligence and why DL and other AI methods don't work . I have converged on concepts such embodiment, general task (prediction), misalignment between input & output dimensions, need for self generated open ended abstractions, dynamics v/s statistics, and much more which I believe are important for creating an intelligent system.

Currently what am I doing

-> Using neuroscience as inspiration for new AI systems falls under NeuroAI. I have enrolled for 2-week NeuroAI course for July 2024. Goal to learn basics of neuroscience and explore neuroscientific literature for inspiration and discovering general principle of intelligence

-> Connect and read work being done in NeuroAI

-> Predictive Vision Model is a AI system which has taken inspiration from contemporary neuroscience. Goal is to push it too its limits and test it's intelligence.

Questions to Answer to Solve Intelligence

- What is the general computation/task the brain solves to perform a list of non exhaustive, on the fly new tasks? The assumption is all the tasks would be downstream of this general task? [Intuition for now says temporal prediction in Vision] [The golden task and then we are golden]

- How to measure intelligence quantitatively or qualitatively in a scientific framework?

Thank You!