



Good AI

Marek Medved'



Good AI

- created by Marek Rosa in 2004
- goal : develop AI in 10 years
- 20 researches
- funding 10 mil \$
- <https://www.goodai.com/our-work>

Software

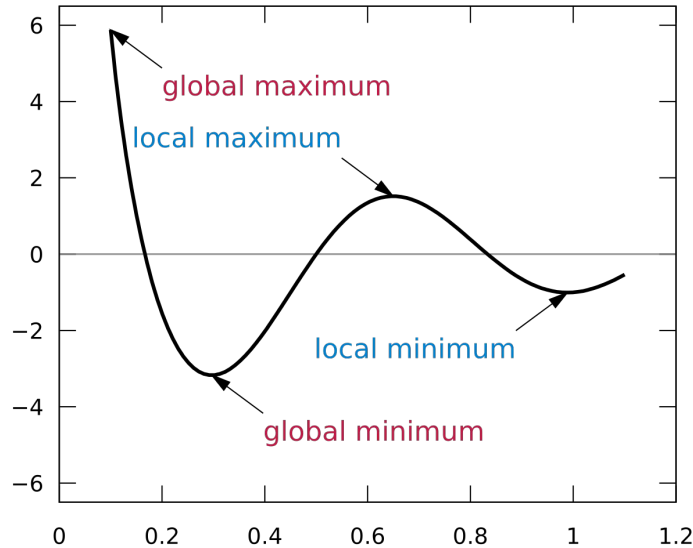
- Brain simulator:
 - standard machine learning components that can be used to build more complex architecture
- Arnold simulator
 - a software platform designed for rapid prototyping of AI system with high dynamic neural network topologies
- School for AI
 - user can define set of tasks that are presented to agent and the agent suppose to learn and see underlying process

Key concepts

- gradual learning:
 - AI agent that gradually requires knowledge and it is guided by teacher to solve them
- memory augmented NN:
 - system that has NN as a base and also external memory
 - problem deduction
 - compose set of pre-hardcoded functions and learn them as a sequence to solve more complex tasks

Initiative

- “People are very focused on their task and do not look outside.”
- roadmap : https://media.wix.com/ugd/2f0a43_091d76d2b0354b0db4d88c3a57fdf76d.pdf



Initiative

- challenge :
 - <https://www.general-ai-challenge.org/active-rounds>
 - look simple
 - set of tasks and rewards
 - between each set there is a drift -> capturing the drift is difficult
 - amount of data is limiting and can not replay

Key concepts

- 1) based on physics
 - Computational mechanics
- 2) based on neuroscience
 - Neural correlates of consciousness

Computational mechanics

- field of physics interested in looking at any kind of systems that generates the data
- predicting the future according some historic data (ϵ -machines)
- one history is equivalent to another history if the probability distribution of its futures given that one history is the same as probability of futures given the other history
- if you have all histories and all futures than you can generate the underlying process
- how much information needs to be stored in the process in order to reconstruct the data

Neural science

- Integrated Information Theory (Dr. Giulio Tononi)
 - measure Φ that shows when the person is unconscious, sleepy or conscious
 - the fully connected system could be divided into multiple components and still do the same job