

“ARTIFICIAL GENERAL INTELLIGENCE”

by Prof. Mohini Chaudhari, Assistant Professor, Vidyalankar Institute of Technology
online lecture on 25th September 2020

Artificial General Intelligence (AGI) is an emerging field aiming at the building of “thinking machines”; that is, general-purpose systems with intelligence comparable to that of the human mind (and perhaps ultimately well beyond human general intelligence). While this was the original goal of Artificial Intelligence (AI), the mainstream of AI research has turned toward domain-dependent and problem-specific solutions; therefore, it has become necessary to use a new name to indicate research that still pursues the “Grand AI Dream” or “Artificial General Intelligence”. Prof. Mohini shared her thoughts and her experiences regarding AGI and common topics in science fiction and future studies.

Event Insights

Beginning of AI

The idea of artificially intelligent beings is prehistoric, with widely recognized references to intelligent machines appearing as early as the 1300s. The first actual learning machines showed up in the early 1950s.

History of AI

The first widely recognized work of AI was the design of Turing-complete “artificial neurons”, in 1943. In 1956, the field blossomed at a conference at Dartmouth, with the presentation of the Logic Theorist program. This is when the term “artificial intelligence” was coined. Progress accelerated through the 60s, but slowed in the 70s, leading to the first “AI winter”. In the 80s, AI developed something called as ‘Expert Systems’. Progress continued through late 90s and early 2000s with much wider adoption of machine learning.

Framework of AI

While AI constitutes to be a very vital part of our lives, one can apply AI into various used cases such as robotics, product recommendation, e-commerce web applications, Predictive maintenance, audio transcription, Alexa, Siri, chatbots, i.e. used to convert one’s speech into text.

Applications of AI

AI is being utilized for a wide range of activities including medical diagnosis, electronic trading platforms, robot control, and remote sensing. AI has been used to develop and advance numerous fields and industries, including finance, healthcare, education, transportation, and more.

What is AGI?

It focuses more on the “general” nature of the desired capabilities of the system. General intelligence involves the ability to achieve a variety of goals, and carry out a variety of tasks, in a variety of different contexts and environments. A generally intelligent system should be able to handle problems and situations quite different from those anticipated by its creators.

Capabilities of AGI

From the article of McKinsey which talks about the below capabilities of AGI:

1. Sensory Perception
2. Fine Motor Skills
3. Natural Language Understanding
4. Problem Solving
5. Navigation
6. Creativity
7. Social and Emotional Engagement

Applications of AGI

The current AI Spring was heralded by Watson on Jeopardy in 2011 and cemented by ImageNet, DeepMind, and AlphaGo in 2014/2015.

Key Takeaways

1. The session was insightful and informative as it made the vision of the students, more distinct towards the field of AGI.
2. The speaker also emphasized about the difficulties that could be faced while making a system which could be set to be artificially, generally intelligent.

Report compiled and edited by Prof. Amit K. Nerurkar and CSI-VIT Team