

A Review on Artificial Intelligence with Deep Human Reasoning

Janmanchi Harika^{1*}, Palavadi Baleeshwar^{1*}, Kumhari Navya^{1*}, Hariharan Shanmugasundaram^{2*}

¹B.Tech student, Department of Artificial Intelligence and Data Science,

²Professor, Department of Computer Science and Engineering,

^{*}Vardhaman College of Engineering, Hyderabad, India

janamanchiharika@gmail.com, palavadibaleeshwar@gmail.com, kumharinavya1@gmail.com, mailtos.hariharan@gmail.com

Abstract— Artificial Intelligence (AI) is a broad term that can be construed to mean a focusing computer programming and development that is designed to train machines and to perform task. Artificial intelligence can be used to test theories of reasoning like cognitive reasoning and consciousness. Research has been conducted on the development of machines with human behavior and cognitive characteristics that are related to consciousness. Artificial Intelligence and Reasoning that are dealt with, can necessarily solve problems related to mental health issues that humans find complex, but research on new interaction techniques and human for cooperation theories, technologies limited the issues and challenges facing the application of artificial reasoning. Here in this paper, the relation between artificial intelligence human reasoning that is also called as AI reasoning or artificial reasoning has been studied. Artificial intelligence impacts reasoning and how artificial reasoning can be used in day-to-day activities to regain our mental health. Moreover, this work focuses on problems that can be solved with AI Reasoning in trying to find the possible solutions.

Keywords— Artificial reasoning; Artificial emotion; Cognitive reasoning; Artificial super intelligence; Linguistics.

I. INTRODUCTION

Reasoning is a scientific study of human mentality and human behavior with their characteristics. It includes study on phenomenon of consciousness and unconsciousness of human mind which includes our feelings as well as our thoughts. It's an academic discipline an immense scope which is crossing the boundaries between environment and human sciences [18]. An expert practitioner or researchers who are involved in such a discipline are called psychologists. Psychologists seek understanding developing properties of human mind and linking the discipline with neuroscience and they also try to understand the human behavior [19].

A look on the developed history timeline of automation science and its technology show that more people are using reasoning (brain science) as well as personalify the control or neuroscience, many other theories which are used to study and control the strategies and algorithms too. With idea like these, we will also extract from reasoning and other related fields to study, explore, understand and an attempt to develop a new field of the information science. However, the aim of the known studies is to produce a human like intelligence, including activities such as reasoning, judgment, identification, perception, thinking, designing and giving solution for a

problem. The information gained of artificial intelligence research mainly aims on how to obtained, convey and use knowledge (refer Fig 1).

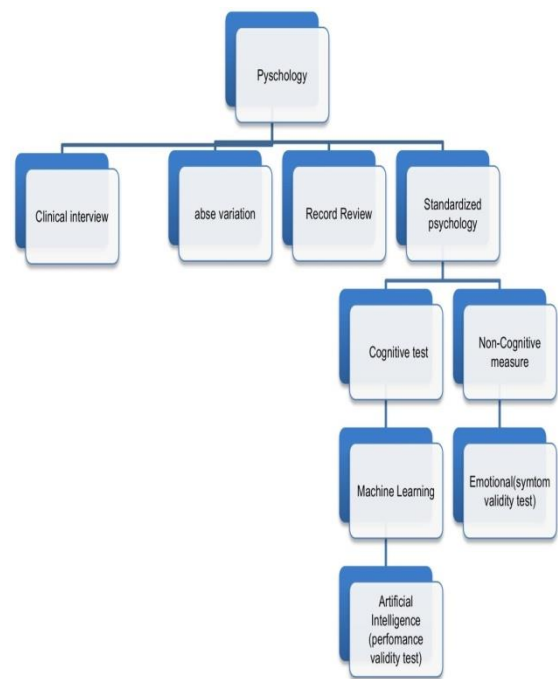


Fig 1:Cognitive reasoning and artificial intelligence

II. ARTIFICIAL INTELLIGENCE AND HUMAN REASONING

A. Relationship between AI and human reasoning

The blue dot performs uses natural language processing and machine learning to analyze 100000 new stories and animal and plant diseases reports in 65 languages everyday. Artificial intelligence is the form of computing that allows machines to actor. AI is closely related to human reasoning [20]. The basis for research in the field systems:- AI is closely linked to human reasoning-the basis for research in the field stems from the network of neurons in the human brain. In the future artificial intelligence is universe, reasoning will stay an asset

for helping individuals adapt to vulnerability and change [10]. As the world turns out to be progressively more innovative, so does the requirement for human based advising and connection.

B. Artificial self human reasoning

Artificial self reasoning is becoming a large domain due to its sufficient growth in the machine learning implementation and data analysis and processing [12]. Artificial intelligence is an organized manner made up of generally more important and interpenetrate part one the first steps in system level thinking within an artificial intelligent has its own ability to understand the health and status and how every part of its system affects the rest of its components refers to Fig 2.



Fig. 2 Process involved in artificial human reasoning

C. ArtificialIntelligence relating to human reasoning

As we are developing these emerging technologies we have to ask ourselves how reasoning is related to Artificial intelligence and reasoning comes into role because we are very good at understanding people's behaviors, motivational, perceptual and cognitive capabilities and limitations [17]. AI relates to diagnose the problems, test and confirm predictions and treatments. They analyze human reasoning using information science research method and artificial intelligence research to make into the human mind.

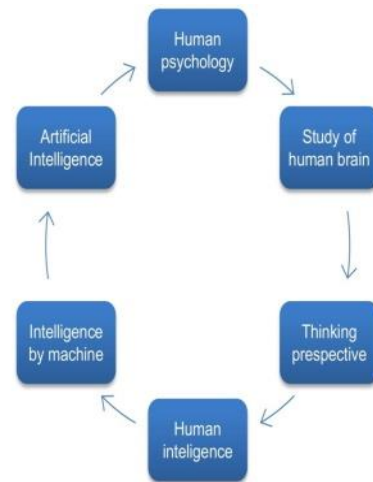


Fig 3:Interconnection between AI and reasoning

Psychologists are presently working and trying to instruct machines to turn to be progressively social and amiable as indicated by BT'S head of costumer insight and future. It attempts cognition's complexity through research, testing and building models of how the human brain handles and processes complex information while paying attention to the speaker/medium and perception what's being received [8]. AI and cognitive reasoning have similar thoughts to understand the nature of intelligent behavior-with the usage of previous data and also using advanced technology [6].

Artificial intelligence is the imitative representation of human intelligence. Today's artificial intelligence can only simulate, replace, extend and expand part of human intelligence. Artificial intelligence involves gaining knowledge and expand our thoughts. The cognitive processes involves thinking, knowing, remembering judging and problem solving.. The formulated emotions of the children are modeled using existing knowledge [5, 7]. Deconstruction of the occupational structure is just one aspect of what artificial intelligence is brought about.

Table 1: Summary of research problem and solutions based on AI and reasoning

S.No.	Authors	Problem	Existing solutions based on reasoning	Solutions based on Artificial Intelligence and reasoning	Complexity
1.	De Mello FL and De Souza [11]	Depressive disorder	Psychotherapy, traditional talk therapy and cognitive behavioral Therapy	Youper's artificial therapy	Very high
2.	Eysenck, M. W and keane [12]	Paranoia	Balanced diet, exercise, sleep	Not available	Very high
3.	Fiske [13]	Post traumatic stress disorder (PTSD)	No curable, symptoms can't managed through psychotherapy medicatic	Virtual reality therapy	Very high
4.	Gibney [15]	Suicidal thoughts	Medication psychotherapy	Therapy through Natural Language Processor	High
5.	Crowder [16]	Hyper activity Disorder	No cure, but symptoms can be managed by psycho education, family therapy and cognitive enhancing medication	Endeavor Rx, video game developed to relax patients	High
6.	Bostrom [14]	Anxiety and Stress	Psychotherapy and medication	Cognitive behavioral therapy	High

Some people even put forward the “machine threat theories. Artificial intelligence makes it possible for machines to learn from experience, adjust to new inputs and perform human like tasks. AI aims to create variety solutions in mental health affected by humans. Virtual reality therapy is also one of the AI technology which is used for the humans to feel comfortable for many mental disorders. So AI is emerging it's own way to innovate new theories for human mental disorders.

Various scenarios in mental health affected human emotions have been analyzed and the result states that excessive, persistent or unstable emotional reactions may indicate an underlying. Table 1 shows the problems that can be solved through reasoning and artificial intelligence. As you can see all of them are concerned mental health issues as reasoning is closely connected to neural system [2, 3, 4]. As listed in the table above those problems has solutions based on reasoning and AI reasoning. Most of the people in current world are following solutions based on reasoning but there is also significant progress in AI reasoning. As technology is updating people are leaning more towards AI reasoning. Methods like Virtual reality therapy make patient comfortable as they can sit in their own space and converse about their issues. Machine learning algorithms and Natural Language Processors (NLP) are also used in AI reasoning therapy to make it simpler and easier. Although there are loopholes when depending on the AI reasoning, there has been lot of research to make successful outcomes. The semantic chart of each model elaborates the process of is triggered in the role of AI and human reasoning [1]. Six main types of cognitive processes are perception, learning, higher reasoning, memory, attention, language.

III. RELATED WORK

AI introduces a new outlook for humanity and science too both what we can do and the influence of our regular actions is converted by the digital intellectual Technology and intelligence. We then contemplate evolutionary mechanism that maintains a well-built community such as heterogeneity flexibility and cooperation. Taking artificial intelligence as prosthetic intelligence makes it better as it enhance our connectivity coordination equation City distribution of Central and our capability to make predictions. We additionally put forward examples of how transparency our thought and our behavior influences callout culture and behavior manipulation and consideration of group activity and tribalism.

We also considered the efficiency and liability of human trust information that is adjustable to an age where the cost of information is declining. We then discuss trust in Ai as how we can regulate trust as to avoid over trust in artificial intelligence using transparency as mechanism.

We then inspect the barriers for Artificial Intelligence increasing accuracy in our understanding by focusing on fake news. Lastly, information accuracy and the battle of individuals against wrong briefs were looked at here. Where available we draw flash use model drawn from scientific simulations to uphold and clarify our prediction analysis.

Many psychological issues can be solved refers to Fig: 3. Understanding human mind is necessary by entering into any human business for investors and traders or starting something. People's opinion matters for it is closely related to reasoning and yes we humans depend on technology so combining technology and

reasoning gives fruitful results. Combining technology and human reasoning is called AI reasoning refers to Fig 4.

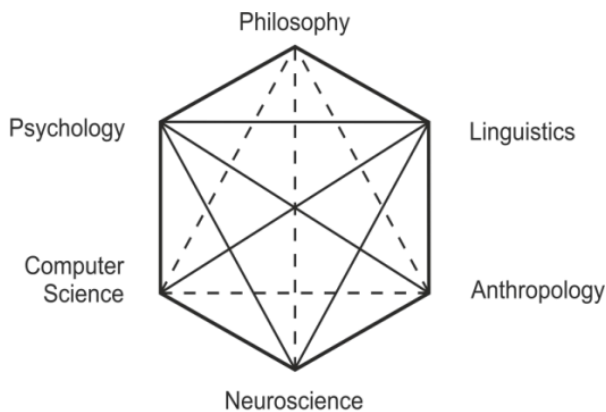


Fig 4: Inter-relationship of reasoning with other fields

IV. CONCLUSION AND FUTURE WORK

At present research in artificial intelligence field is focused on integration of image and voice for interaction. It is usually described as Technology designed for machines to perform activities that requires human intelligence, while cognitive reasoning studies about human thinking process and information storage system of train brain and how it handles the Information. Common name for both and reasoning is to understand human behavior and intelligence. Researchers are also focusing on neural networks in which is similar to human neural system. The complexity of human brain increases when it is overwhelmed by emotions and mental illness. This paper is about curing mental illness with AI reasoning. This paper briefly discusses about what is AI and what is reasoning while finding the link between them. Apart from that the impact of AI reasoning on human mental health is also vital. As mentioned above even though implementing AI reasoning in therapy is effective it is also expensive. It is also concluded that it is realized that there is a gap in between imagining AI in reasoning methods and procedures and implementing them in real.

REFERENCES

- [1] Annette B, Thomas G and Julius K, "Emotion and Intuition: Effects of Positive and Negative Mood on Implicit Judgments of Semantic Coherence", *Psychological Science*, Vol.4, Issue.5, pp:416-421,2003.
- [2] Crowder, J.A., Friess, S., "Artificial Neural Diagnostics and Prognostics: Self-Soothing in Cognitive Systems." *International Conference on Artificial Intelligence*, ICAI'10 , July 2010.
- [3] Crowder, J. A., Friess, S., "Artificial Neural Emotions and Emotional Memory" *International Conference on Artificial Intelligence (ICAI'10)* ,July 2010.
- [4] Crowder, J. A., "Flexible Object Architectures for Hybrid Neural Processing Systems." *International Conference on Artificial Intelligence*, ICAI'10, 2010.
- [5] Marsella, S., and Gratch J., "A Step Towards Irrationality: Using Emotion to Change Belief." *1st International Joint Conference on Autonomous Agents and Multi-Agent Systems*, Bologna, Italy, 2002.

- [6] Miller E.K, Freedman D.J, Wallis J.D, "The prefrontal cortex: categories, concepts and cognition". *Philos. Trans. R. Soc. Lond. B, Biol. Sci.* 357 (1424): 1123–36, 2002.
- [7] J. Cheng, G.Y. Liu, "Research Progress on emotion recognition from the perspective of subject cross, *Comput. Sci.*" 39 (5) ,pp.19-24, 2012.
- [8] L. Lu, "A study of the multimodal cognition and interaction based on touch, audition and vision, *J. Comput. Aided Des. Comput. Graph.*" 4 (26), 2014.
- [9] M.H. Yang, "Nature multimodal human-computer-interaction dialog system, *Comput. Sci.*" 10 (41), pp-12-35, 2014.
- [10] Y.C. Huang, K.Y. Wu, Y.T. Liu, "Future home design: an emotional communication channel approach to smart space, *Personal Ubiquitous Comput.*", 17(6), pp.-1281-1293, 2013.
- [11] De Mello FL and De Souza SA, "Psychotherapy and Artificial Intelligence: A Proposal for Alignment",. *Front. Psychol.* 10:263. doi: 10.3389/fpsyg.2019.00263, 2019.
- [12] Eysenck, M. W and keane M, "Cognitive psychology: A student's hand book", Psychology press, 2015.
- [13] Fiske A, Henningsen P, Buyx A, "Your Robot Therapist Will See You Now: Ethical Implications of Embodied Artificial Intelligence in Psychiatry, Psychology, and Psychotherapy", *J Med Internet Res*, 21(5):e13216, 2019.
- [14] Bostrom, N. "AI set to exceed human brain power. *CNN science and space*", 2006.
- [15] Gibney, E, "Google secretly tested AI bot with human psychology", 2017.
- [16] Crowder.J. "Robot therapist will see you know ethical implications of human psychology", 2019.
- [17] Wagman M, "Cognitive psychology and artificial intelligence theory and research in cognitive science", 1984.
- [18] Tambe M and Newell. A, "Theory of human and artificial cognition Research", 1988.
- [19] Malik, "Dictionary of cognitive psychology and human era", 2011.
- [20] Terry D, "Artificial intelligence and creativity-an interdisciplinary approach", 2019.