

Association Between Multiple Intelligence and Artificial Intelligence

Disha Saini, Ashutosh Pradhan

Deptt. of Computer Science and Engineering, R D Engineering College, Ghaziabad, U.P., India

DOI: <https://doi.org/10.51583/IJLTEMAS.2025.1407000045>

Abstract: The research titled “*Bridging the Gap between Artificial Intelligence and Multiple Intelligence*” explores how human intelligence, traditionally seen as unique, has inspired the development of Artificial Intelligence (AI). Initially focused on Natural Intelligence, the study later expanded to include Multiple Intelligence (MI), recognizing Natural Intelligence as a subset of MI. The objective is to build a conceptual bridge between human and artificial intelligence.

In this discusses the basics of both intelligences and how human intelligence is influenced by expressions, emotions, and environment. reviews existing literature to support the study. delves deeper into the bridge concept, exploring the transfer of knowledge from humans to machines, with coding examples provided. outlines the hardware and software necessary for AI development. The research aims to enhance both human and artificial intelligence by leveraging each other’s strengths.

I. Introduction

The first and most important prerequisite for this research is defining intelligence. The foundation of both artificial intelligence and many intelligences is intelligence, which is a far more expansive term. According to one definition, intelligence is "the ability to think in abstract or intellectual terms." Although it might be limited, this conceptual idea distinguishes hatuseparatesm animals. Squirrels, coyotes, otters, and pandas are examples of mammals who have exceptional survival skills in their natural habitat, proving that intellect is not a suitable term to characterize them. In his Forbes India blog, Shridhar Marri (2018) clarified that emotional intelligence and artificial superintelligence may coexist in the same location and at the same time. He goes on to explain that although robots can do a work far more quickly than people, humans must still give them instructions. This combination will be a powerful force for the advancement of humanity. Additionally, he claims that emotional intelligence is lacking in superintelligence, which facilitates a more natural connection between artificial superintelligence and humans. In this case, it would be a great accomplishment for humans if computer superintelligence had emotional intelligence. Katja Grace and colleagues (2018), in their astounding paper "When Will AI Outperform Humans? According to "Evidence from AI Experts," advances in artificial intelligence have the potential to change daily life and transportation, perhaps replacing millions of jobs in the near future. The authors also gave reviews on High-level machine intelligence (HLMI). Over the next ten years, AI is expected to outperform humans in a variety of tasks, including —translating languages (by 2024), writing high-school essays (by 2026), driving a truck (by 2027), working in retail (by 2031), writing a bestselling book (by 2049), and interacting with patients (by 2053) I.

Bridge between Intelligence

The intrinsic mind

Both types of memory processing are dispersed throughout intricate brain networks, even though certain brain regions—like the hippocampus—are more active in processing semantic memories than motor ones—like the cerebellum. However, since we frequently use terminology like memory as a catch-all for any activity connected to the underlying principles, it might be difficult to apply this directly to broader psychological notions. Instead, it relates to a fundamental theory of brain function like learning or memory.

However, the concept that a global measure of musical ability (or musical intelligence) would be affected is compatible with the idea that injury to the right parietal lobe might affect musical ability in any way. Because of this association, we are learning more about which circuits could be involved in managing related features, such as emotional contagion, expectation, and memory, even if research into the neurological basis of music-based emotions is still in its early stages.

II. Research Methodology

Defining Research

Sources and materials are thoroughly examined using the scientific method, and a methodical inquiry is conducted to arrive at new facts and conclusions. Research is the process of looking for new information and discoveries. In summary, it is the choice to focus on the particular issues for which there is potential for improvement in the event that the final study design lacks a clear prioritization, definition, and improvement.

Types of Research Methods

"A systematic and scientific process done on data, such as collecting, analyzing, interpreting, and then implementing to the given problem" is what is meant by research techniques. The nature, goal, and other characteristics of the study may be used to categorize the research process into several categories. In general, there are two types of research methods.

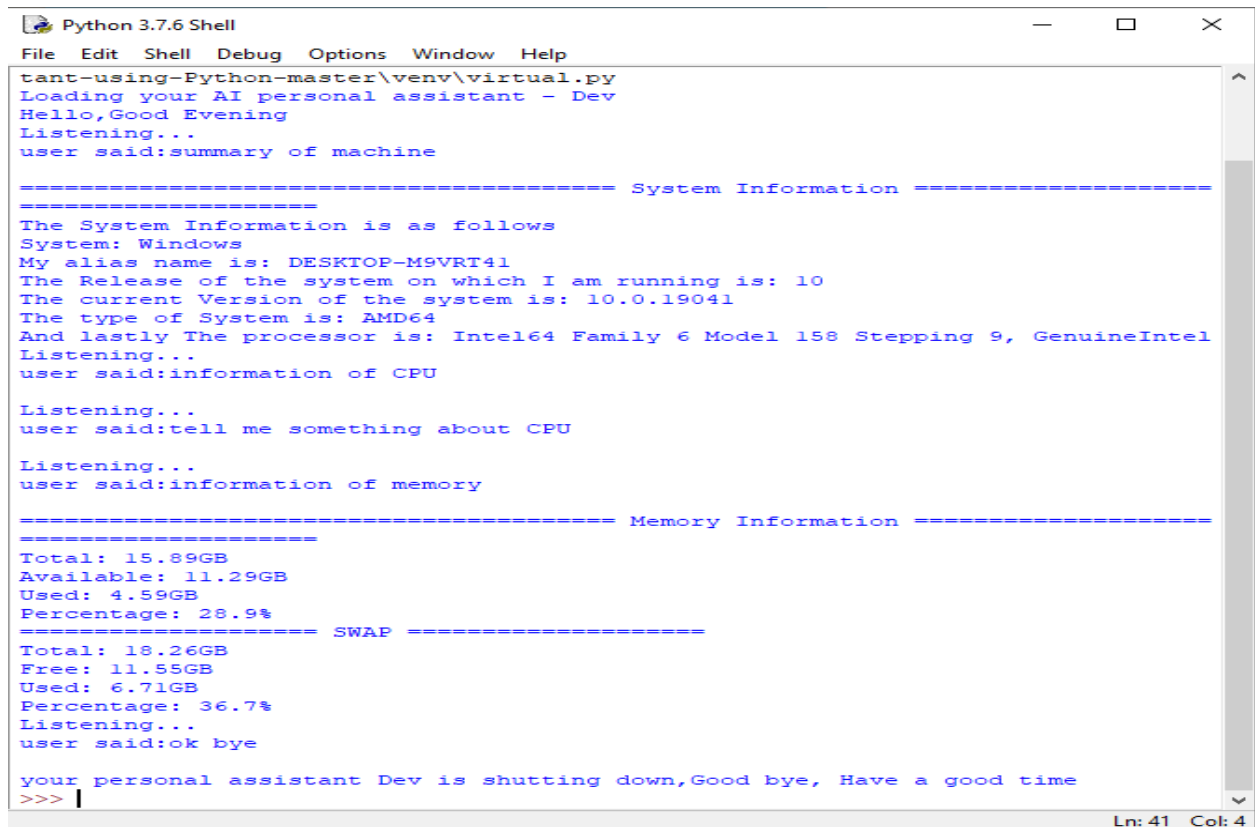
III. Results (output of the program – in detail)

As the research began with the goal of bridging the gap between the study of multiple intelligences in psychology and artificial intelligence in computer science, researchers have developed a bridge that uses code written in the native technical language of Python to depict a form of multiple intelligence in artificial intelligence. The Python compiler is used to compile the code, which was created using a conventional Python IDLE. The output of the code, which functions as a text-to-speech synthesizer, may mimic a human vocal tract and transmit information to a genuine human ear.

After a while, even BCI receives the incoming signal, analyzes it, and produces the intended output. The team encountered several issues while developing the program, which they also debugged. In Python, indentations are essential; occasionally, a single space left might result in an unthinkable error. However, after overcoming all of those mistakes, the product was ultimately drawn. The researcher investigated several subfields of artificial intelligence and multiple intelligences (a notion developed by Howard Gardner) before describing the creation.

Let us see the results as follows:

Figure.1 Working Environment



```
Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
tant-using-Python-master\venv\virtual.py
Loading your AI personal assistant - Dev
Hello,Good Evening
Listening...
user said:summary of machine

===== System Information =====
The System Information is as follows
System: Windows
My alias name is: DESKTOP-M9VRT41
The Release of the system on which I am running is: 10
The current Version of the system is: 10.0.19041
The type of System is: AMD64
And lastly The processor is: Intel64 Family 6 Model 158 Stepping 9, GenuineIntel
Listening...
user said:information of CPU

Listening...
user said:tell me something about CPU

Listening...
user said:information of memory

===== Memory Information =====
Total: 15.89GB
Available: 11.29GB
Used: 4.59GB
Percentage: 28.9%
===== SWAP =====
Total: 18.26GB
Free: 11.55GB
Used: 6.71GB
Percentage: 36.7%
Listening...
user said:ok bye

your personal assistant Dev is shutting down,Good bye, Have a good time
>>> |
```

Source: Author Generated

IV. Conclusion

From the perspective of the above research, it is concluded that in the next few decades, the goal can reach a new kind of super-brain computing wherein the artificial system will possess capabilities like presenting emotions based on perception, will instigate emotions in the process of thinking, will be able to understand human and feeling of emotion, Act maturely, have a proper interpersonal relationship, deal with frustration, high level of intelligence, high – performance, and all consciousness. It has also been concluded that the system is trying to adjust to the environment in which it is asked to perform. Given the kinesthetic intelligence, it is concluded that the structure of the robot can be designed and developed as huge as possible and constraining to the financial availability as the cost of the motherboard used to design and make it operate is high and the cost of creating the body parts of the bot is high as well. Furthermore, it was also concluded that an artificially intelligent system will not operate after a certain level in the typical environment, which means that it will need a supercomputer to operate. For instance, a neuromorphic chip has been developed with a different architecture than the standard Von Neumann basic computing architecture. Also, BCI will need some connectivity between humans and the system to take input from the human brain signal, process it, and finally give the output. Developing such a system is not a task that one person can achieve. It needs a dedicated team of experts with thorough knowledge who can brainstorm at alarming speed when the system fails to operate or goes out of control.

References

1. Alexandra. (2020, February 13). The Psychology Notes HQ. Retrieved from The Psychology Notes HQ: <https://www.psychologynotesHQ.com/brainhemispheres/>
2. Aron K. Barbey, Roberto Colom, Jeffrey Solomon, Frank Krueger, Chad Forbes, Jordan Grafman (2012), "An integrative architecture for general intelligence and executive function revealed by lesion mapping", "Brain: A Journal of Neurology", "DOI:10.1093/brain/aws021", Volume 135, Issue 4, pp. 1154 – 1164
3. Berlinger, F. (2017, August 8). The Gap between Intelligence and Artificial Intelligence. Retrieved from <https://www.reatch.ch/de/content/gap-between-intelligence-and-artificial-intelligence>.
4. Bharadwaj, S., & Kumar, D. (2014). Environmental Science. Scanning, 4, 39- 50.
5. Blankertz, B. (2018). Gentle Introduction to Signal Processing and Classification for Single- Trial EEG Analysis. In C. S. Nam, A. Nijholt, & F. Lotte, Brain - Computer Interface Handbook (pp. 343 - 370). Ohio: CRC Press.
6. Brian Christian and Tom Griffiths (2016), "Computational Kindness", "Algorithms to live by - the computer science of human decision", ISBN: 978-1-627- 79036-9, ch. 12, pp. 256 – 262
7. Brownlee, J. (2019, June 17). A gentle Introduction to Generative Adversarial Networks. Retrieved from Machine Learning Mastery: <https://machinelearningmastery.com/what-are-generative-adversarial-networks-gans/>
8. Brunner, P., & Schalk, G. (2018). BCI Software. In C. S. Nam, A. Nijholt, & F. Lotte, Brain - Computer Interface Handbook (pp. 323 - 342). Ohio: CRC Press.
9. Chevallier, S., Kalunga, E. K., Barthelemy, Q., & Yger, F. (2018). Riemannian Classification for SSVEP- Based BCI: Offline versus Online Implementation. In C. S.
10. Nam, A. Nijholt, & F. Lotte, Brain - Computer Interface Handbook (pp. 371 - 396). Ohio: CRC Press.
11. Cho, H., Ahn, M., Kwon, M., & Jun, S. C. (2018). A Step-by-Step Tutorial for a Motor Imagery- Based BCI. In C. S. Nam, A. Nijholt, & F. Lotte, Brain - Computer Interface Handbook (pp. 445 - 460). Ohio: CRC Press.
12. colah. (2015, August 27). Understanding LSTM Networks. Retrieved from Github: <https://colah.github.io/posts/2015-08-Understanding-LSTMs/>
13. Daly, I. (2018). Affective Brain-Computer Interfacing and Methods for Affective State Detection. In C. S. nam, A. Nijholt, & F. Lotte, Brain - Computer Interface Handbook (pp. 147 - 164). Ohio: CRC press.
14. Dambrot, S. M. (2018). Neuroprosthetics Past, Present, and Future. In C. S. Nam, A. Nijholt, & F. Lotte, Brain - Computer Interface Handbook (pp. 113 - 132). Ohio: CRC Press.
15. Deyi Li and Yi Du (2008), "The Cross Trend between AI, Brain Science and Cognitive Science", "Artificial Intelligence with Uncertainty", "ISBN – 13: 978-1- 58488-998-4", Ch. 1, pp. 15
16. Dezhic, E. (2017, June 14). Artificial vs Natural Intelligence. Retrieved from <https://becominghuman.ai/artificial-vs-natural-intelligence-626b6c7adbb2>
17. Egor Dezhic (2017), "Artificial versus Natural Intelligence", retrieved from <https://becominghuman.ai/artificial-vs-natural-intelligence-626b6c7adbb2>
18. Faller, J., Weiss, N., Waytowich, N., & Sajda, P. (2018). Brain- Computer Interfaces for Mediating Interaction in Virtual and Augmented Reality. In C. S. Nam, Nijholt, & F. Lotte, Brain - Computer Interface Handbook (pp. 235 - 252). Ohio: CRC Press.
19. Florian Berlinger (2017), "The Gap between Intelligence and Artificial Intelligence", retrieved from <https://www.reatch.ch/de/content/gap-between-intelligence-and-artificial-intelligence> gardner, h. (2016). 5 Minds for the Future. LA.
20. Saurabh Chauhan, Dharamveer Singh, Atul Kumar Singh (2022) "Artificial Intelligence In The Military: An Overview Of The Capabilities, Applications, And Challenges", Journal of Survey in Fisheries Sciences, Vol 9 (2) pp 984-991. <https://doi.org/10.53555/sfs.v9i2.2911>
21. Kiran, Dharamveer Singh, Nitin Goyal, (2023) "Analysis Of How Digital Marketing Affect By Voice Search", Journal of Survey in Fisheries Sciences, Vol. 30 (2) 407-412. <https://doi.org/10.53555/sfs.v10i3.2890>
22. Yukti Tyagi, Dharamveer Singh, Ramander Singh, Sudhir Dawra (2024) "Analysis Of The Most Recent Trojans On The Android Operating System", Educational Administration: Theory and Practice, Vol. 30(2) 1320-1327. <https://doi.org/10.53555/kuey.v30i2.6846>
23. Shivane Singh, Dharamveer Singh, Ravindra Chauhan (2023) "Manufacturing Industry: A Sustainability Perspective on Cloud and Edge Computing", Journal of Survey in Fisheries Sciences, pp 1592-1598. <https://doi.org/10.53555/sfs.v10i2.2889>