HARMONIZING HUMAN AND MACHINE: EXPLORING THE INTERPLAY OF SOCIAL INTELLIGENCE AND ARTIFICIAL INTELLIGENCE

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Abstract:

As artificial intelligence (AI) advances, there is a rising need to investigate the interaction of social intelligence and AI systems. This research article aims to investigate how social intelligence principles can be integrated into the design, development, and deployment of AI technologies. The study will delve into the potential of AI to exhibit social awareness, emotional understanding, and adaptability, mirroring aspects of human social intelligence. The article will also explore the ethical considerations and societal implications of infusing social intelligence into AI systems, emphasizing the importance of creating technology that aligns with human values and fosters positive social interactions. Through a multidisciplinary approach, this research aims to contribute valuable insights into the evolving relationship between social intelligence and artificial intelligence, paving the way for the responsible and human-centric development of intelligent systems. This topic allows for an in-depth exploration of the synergy between human social intelligence and the capabilities of artificial intelligence, addressing both the technical and ethical dimensions of this evolving relationship.

Methodology:

Online survey and interaction with students from various streams of study was employed to analyse the relationship and the impact of social intelligence and emotional intelligence among the students of 21st century. Correlational analysis was employed to find the relationship, Regression Analysis was done to find the impact of Social Intelligence on Artificial intelligence and its frequency of application.

Results

- The findings show a positive correlation between social intelligence and level of using Artificial Intelligence among students from Arts stream and Science stream.
- The finding predicts that principles of Social intelligence of students from Arts and Science stream had a reasonable impact on the deployment and development of level of using Artificial Intelligence.

Key Words: Social Intelligence, Artificial Intelligence, Technology integration, AI technologies

1. Introduction:

Social Intelligence, presenting itself as an innovative field of study applicable to the examination of human behavior, explores the distinctions between intelligence measurable through an IQ test and the kind of intelligence that enables us to comprehend and connect with the emotions of others. It constitutes a crucial branch of emotional intelligence, enriching our lives in ways not easily measurable through conventional methods like an IQ test.

Artificial intelligence (AI) is the replication or approximation of human intelligence in machines. Artificial intelligence's goals include computer-assisted learning, thinking, and perceiving. AI is now being used in a wide range of industries, from basic to advanced technical skills.

This research explores the beneficial outcomes of enhancing our capacity to recognize social cues and comprehend our interconnectedness with others. By delving into both the neurological mechanisms and practical implementation of social intelligence in the utilization of Artificial Intelligence in our daily routines, the study contends that social intelligence is of equal significance to cognitive intelligence.

Background and rationale for the study

More human-centric AI systems can be developed by developers if they have a better understanding of how social intelligence and AI interact. AI programs that integrate social intelligence are better able to comprehend, decipher, and react to human emotions, actions, and social cues. Artificial intelligence systems with social intelligence can help humans and machines work together more effectively. The ability of these technologies to adjust to human communication patterns results in more efficient and natural interactions.

Investigating the relationship between social intelligence and AI aids in the development of ethical AI. This entails taking into account how AI might affect privacy, cultural diversity, and social dynamics, as well as putting safety measures in place to guarantee ethical AI use. By encouraging impartial and fair decision-making, the incorporation of social intelligence into AI models aids in the eradication of prejudice and discrimination. Socially aware AI systems are better able to comprehend and navigate diverse perspectives, reducing the risk of perpetuating or amplifying societal biases.

Socially intelligent AI has the potential to humanize technology. By incorporating elements of emotional intelligence and social awareness, AI systems can become more relatable, enhancing user experiences and fostering a sense of trust between humans and machines. Understanding social intelligence enables the development of AI systems that can personalize user experiences based on individual preferences, emotions, and social contexts. This can lead to more engaging and effective interactions.

AI with social intelligence can be utilized to support mental health initiatives. For example, AI-powered virtual assistants can provide emotional support, detect signs of distress, and offer resources for well-being. Exploring the interplay between social intelligence and AI is valuable in educational settings. AI systems with social awareness can adapt teaching methods to individual learning styles, provide personalized feedback, and support social skills development in students.

Incorporating social intelligence in AI systems can contribute to building trust between humans and machines. Understanding and responding appropriately to human emotions and social cues fosters a sense of reliability and transparency in AI interactions. Consideration of social intelligence in AI design promotes socially responsible AI development. This involves aligning AI systems with societal values, respecting cultural differences, and minimizing negative social impacts.

Understanding the interplay between social intelligence and AI informs the development of legal and regulatory frameworks. This involves resolving concerns about privacy, data protection, and the ethical application of AI in social contexts.

2. Literature Review:

A literature review is essential for informing the research process, demonstrating scholarly engagement, and positioning the study within the broader academic context. It is a critical step in the research journey that contributes to the depth, credibility, and significance of the overall research endeavour.

Miller (2019) in his research focusing on the insights of artificial intelligence with reference to social studies among employees and employers found that Artificial intelligence has become and inevitable part to explain and expand work and its development. In a study on artificial social intelligence, Bainbridge et al. (1994) determined that intensive training and skill upgrading are required to use artificial intelligence and get the most out of it. Baum (2020) studied the social ethics that interlude utilization of artificial intelligence. The findings of the research showed that the choice of social ethics had impact on utilization of AI in all fields.

3. Research design and approach:

The current study is a quantitative correlational investigation. The primary data collection method was questionnaire surveys. Students from several colleges in the Chennai district took part. The questionnaire consisted of 10 questions focusing on social intelligence and 10 questions to test level Artificial intelligence. A sample of 50 students from Arts steam and 50 students from science stream

were administered with the online questionnaire. The data thus collected was statistically analysed using correlation and regression analysis.

Hypotheses:

H_{01}: There is no correlation between social intelligence and the extent of use of artificial intelligence.

H_{02}: The variable Social intelligence will have significant contribution towards level of using Artificial intelligence among college (Arts and Science stream) students.

4. Data Analysis and Interpretation

The acquired data was analyzed using SPSS 25, Pearson's correlation analysis, and Linrear Regression analysis to determine the association between variables as stated by the Hypotheses.

Hypothesis I

There is no correlation between social intelligence and the extent of use of artificial intelligence.

Table1 Correlation Matrix demonstrating the interdependence of social intelligence and artificial intelligence among college students

Variables	Social intelligence	Artificial intelligence
Social intelligence (SI)	1.000	0.822**
Artificial intelligence (AI)	-	1.000

The correlation between the study's independent variable and dependent variable is significant. Independent variables such as social intelligence have a significant positive correlation with dependent variable Artificial intelligence. As a result, the results demonstrated that the better the social intelligence of Arts and Science Stream students, the higher their artificial intelligence.

The simple correlation reported above requires additional analysis with linear regression in order to determine the exact influence of associated independent variable on dependent variable.

Hypothesis II

The variable Social intelligence will have significant contribution towards level of using Artificial intelligence among college (Arts and Science stream) students.

The finding of a statistical link among two or more variables is known as regression. One dependent and one independent variable are utilized in simple regression. The behavior of one (dependent) variable is caused by another (independent) variable. When there is only one independent variable, the relationship analysis is identified as linear correlation. The equation expressing the association is known as linear regression equation.

Regression analysis is intended to investigate the link between a variable Y and another variable X1, using linear equation

$$Y=mX + b1.$$

Y is the dependent variable that must be discovered in this case. X1 is the known variable to be predicted, and b1 is the coefficient of variables.

The dependent variable in present study is the level of use of artificial intelligence, and the independent variable is social intelligence. The analysis is described as

Dependent variable : level of using Artificial Intelligence (Y)

Independent variable : Social intelligence (X_1)

Table 2

Summary of simple Linear Regression Analysis of college students.

Model	R	R^2	(Adjusted) R^2	Standard Error of Estimate	F	P
1	0.842[a]	0.708	0.708	3.739	1452.980	0.002**

The coefficient of simple linear correlation is 0.842. the value assesses the degree of correspondence amid the actual and expected levels of Artificial Intelligence. Because the projected values are a linear mixture of independent factors. The number 0.842 suggests that the link between college students' Social Intelligence and the independent variable is quite high and positive.

R-square – coefficient of determination quantifies the goodness – of - fit. R^2 is 0.708, which suggests that variable social intelligence contribute to the degree of using Artificial Intelligence among college students to the amount of 70.8%, and is significant at 1% level.

Table 3

Regression of Social Intelligence on level of using Artificial Intelligence, among college students.

Variables	Unstandardized Coefficients		Standardized Coefficients	't'- value	P-value
	B	Std. Error	Beta		
(Constant)	110.213	6.379		17.277	<0.001**
Social intelligence	0.044	0.039	0.032	1.126	0.001**

Y = 110.213 + 0.032X1--- The average error score from

The individual contribution of variable X1 to the level of employing Artificial Intelligence (Y) of higher secondary pupils can be determined using this standardized regression equation.

According to table 1.4.2, a positive sign indicates that the degree of employing Artificial Intelligence would increase by 0.032, for each unit increase in Social intelligence.

According to Beta coefficient value from above table, social intelligence is the significant predictor of level of employing Artificial Intelligence in the case of college students. All of these variables contribute to a degree of use of Artificial Intelligence by college students of 70.8%. The social intelligence coefficient value is significant at 1% level. As a consequence, the idea that variable social intelligence will have a major contribution to college students' level of using Artificial Intelligence is accepted.

5. Findings and Discussion

- The analysis shows a positive correlation between social intelligence and level of using Artificial Intelligence among students from Art stream and Science stream. Person with high social intelligence makes best choice and utilization of apps and social platforms supported with artificial intelligence. The growing technological intervention in all fields has made the availability of networking that enables the use of artificial intelligence with social outlook.
- The outcome predicts that principles of Social intelligence of students from Arts and Science stream had a reasonable influence on the deployment and development in level of using AI(Artificial Intelligence). Person with high social intelligence is more prone to indulge in communication, interaction and search of knowledge. This makes the person with social intelligence utilizes artificial intelligence more than others.

6. Future Directions and Challenges:

Leveraging social intelligence to complement AI can lead to enhanced decision-making, customer interactions, and innovation. By fostering a collaborative environment, organizations can harness the full potential of human-machine partnerships. Emerging trends such as AI in teaching and learning process along with harmonization of social intelligence and level of using Artificial Intelligence will take education to the globalized perspective. The future holds immense possibilities for the integration of human and machine capabilities. As AI continues to evolve, the collaboration with human social intelligence will drive advancements in healthcare, education, business, and beyond.

Anticipated challenges in the development and deployment of socially intelligent AI in education system are more focused towards the population and on growing demands of the society as well as the nation upon an individual. In a developing country like India AI integration and utilization stands as a great question in terms of financial and technological constraints that needs to be addressed at earliest.

7. Suggestions for future research

Research in Social Intelligence and Artificial intelligence has a wider scope as the utilization of AI has entered into all field such as education, medical and economical etc., This structured outline provides a foundation for developing a comprehensive research article on the interplay of social intelligence and artificial intelligence. Researchers can use this as a guide for expanding each section with detailed content, analysis, and findings.

8. Conclusion:

The fusion of *social intelligence* and *artificial intelligence* presents unprecedented opportunities for innovation and problem-solving. By embracing this dynamic nexus, organizations can pave the way for a future where human and humanoid (Artificial Intelligence) capabilities complement each other, leading to transformative advancements.

References:

Bainbridge, W. S., Brent, E. E., Carley, K. M., Heise, D. R., Macy, M. W., Markovsky, B., & Skvoretz, J. (1994). Artificial social intelligence. *Annual review of sociology*, *20*(1), 407-436.

Baum, S.D. Social choice ethics in artificial intelligence. AI & Soc 35, 165–176 (2020). https://doi.org/10.1007/s00146-017-0760-1

Boyd, R., & Holton, R. J. (2018). Technology, innovation, employment and power: Does robotics and artificial intelligence really mean social transformation? *Journal of Sociology*, *54*(3), 331-345.

Bryson, J. J. (2015). Artificial intelligence and pro-social behaviour. *Collective agency and cooperation in natural and artificial systems: Explanation, implementation and simulation*, 281-306.

Cominelli, L., Mazzei, D., & De Rossi, D. E. (2018). SEAI: Social emotional artificial intelligence based on Damasio's theory of mind. *Frontiers in Robotics and AI*, *5*, 6.

D'alfonso, S., Santesteban-Echarri, O., Rice, S., Wadley, G., Lederman, R., Miles, C., ... & Alvarez-Jimenez, M. (2017). Artificial intelligence-assisted online social therapy for youth mental health. *Frontiers in psychology*, *8*, 796.

Hager, G. D., Drobnis, A., Fang, F., Ghani, R., Greenwald, A., Lyons, T., ... & Tambe, M. (2019). Artificial intelligence for social good. *arXiv preprint arXiv:1901.05406*.

Hendler, J., & Mulvehill, A. M. (2016). *Social machines: the coming collision of artificial intelligence, social networking, and humanity*. Apress.

Horváth, Á., & Vicsek, L. (2023). Visions of Hungarian Artificial Intelligence Specialists About the Future of Work and Their Roles. Science, Technology and Society, 28(4), 603-620. https://doi.org/10.1177/09717218231186105

Hunt, T. (1928). The measurement of social intelligence. Journal of Applied Psychology, 12(3), 317.

Kihlstrom, J. F., & Cantor, N. (2000). Social intelligence. Handbook of intelligence, 2, 359-379.

Marlowe, H. A. (1986). Social intelligence: Evidence for multidimensionality and construct independence. Journal of educational psychology, 78(1), 52.

Miller, T. (2019). Explanation in artificial intelligence: Insights from the social sciences. Artificial intelligence, 267, 1-38. https://doi.org/10.1016/j.artint.2018.07.007

Perc, M., Ozer, M., & Hojnik, J. (2019). Social and juristic challenges of artificial intelligence. *Palgrave Communications*, *5*(1).

Shi, Z. R., Wang, C., & Fang, F. (2020). Artificial intelligence for social good: A survey. *arXiv preprint arXiv:2001.01818*.