Research Article

Perception towards AI Usage and Implementation: A Study on College Students of Jalandhar City

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Abstract— Artificial Intelligence (AI) has become an important part of modern technology, impacting various sectors including education. This study examines college students' perceptions of the usage and implementation of AI in Jalandhar City. The objective is to understand their attitudes, concerns, and expectations regarding AI technologies. A quantitative research approach was employed, utilizing a structured survey distributed to 150 students from the institute named" Innocent Hearts Group of the institute " in Jalandhar. The survey assessed their awareness of AI, perceived benefits and risks, and the influence of AI on their future career prospects. The results reveal that while students generally hold a positive view of AI's potential to enhance their educational and professional opportunities, there are considerable concerns about data privacy and job displacement. The study also indicates that students with prior knowledge of AI technologies tend to have a more positive attitude. These findings underscore the importance of educational institutions embedding AI knowledge into their curricula and addressing students' concerns to foster a more informed and balanced perspective on AI. This research contributes to understanding how the younger generation perceives emerging technologies and provides insights for policymakers and educators to better support students in navigating the evolving technological landscape.

Keywords— AI, College Students, Jalandhar, Perception, Technology Implementation

1. Introduction

Artificial Intelligence is considered one of the most influential technological advancements of the 21st century, influencing various aspects of everyday life and professional domains. From enhancing user experiences through personalized recommendations to revolutionizing industries with automation and data analytics, AI is reshaping the world at a rapid pace. As AI technologies become increasingly integrated into both academic and professional environments, understanding how different demographics perceive these changes becomes crucial. Despite the pervasive impact of AI, there is limited research focusing on how specific groups, such as college students, perceive AI and its implementation. This demographic is particularly significant as they represent the future workforce and leaders who will interact with and shape the future of AI technology. Understanding their perceptions is vital for educators, policymakers, and technology developers to address potential concerns and leverage opportunities.

Future Workforce Affect: College understudies speak to another era of experts, business visionaries, and pioneers who will be connected with, impact, and shape the long run of AI innovations. Their understanding, selection, and demeanours

toward AI will specifically influence how AI is coordinated into different divisions and how it advances over time. Understanding their points of view makes a difference in future patterns and challenges in AI execution across industries. the ponder of college students' recognition of AI is pivotal for forming a long-standing time of AI innovation, guaranteeing that it is created and embraced in ways that advantage society, the economy, and future eras of experts**.**

1.1 Objectives
This study explores the perceptions of college students in Jalandhar City regarding AI. Specifically, it seeks to:
1.1.1 Assess the level of awareness and understanding of AI among college students.
1.1.2 Explore the relationship between student's exposure to AI and their overall attitudes toward its implementation.

2. Related Work

1.[14] Artificial Intelligence in the 21st Century: Opportunities, Risks, and Ethical Imperatives (May 2024)
Problem Statement: Artificial Intelligence (AI) is rapidly advancing, offering significant opportunities across various sectors. However, these advancements bring forth challenges, including ethical dilemmas, risks of bias, privacy concerns,

and potential societal impacts. There is a pressing need to understand and address these issues to harness AI's benefits while mitigating its risks.

Objectives:
Examine AI Opportunities: Analyse the potential benefits of AI in sectors such as healthcare, education, and industry.

Identify Associated Risks: Investigate the risks linked with AI deployment, including ethical concerns, biases, and privacy issues.
2.[15]Article titled "Societal Impacts of Artificial Intelligence:Ethical,Legal,andGovernance Issues"(June2024).

Problem Statement: Artificial Intelligence (AI) is rapidly transforming various sectors, raising significant ethical, legal, and governance challenges. There is a pressing need to understand and address these issues to ensure that AI technologies are developed and implemented responsibly, aligning with societal values and norms.

Objectives:
Examine Ethical Implications: Investigate the ethical considerations associated with AI, including concerns about bias, fairness, and transparency.

Analyse Legal Challenges: Explore the legal issues arising from AI deployment, such as liability, intellectual property rights, and data privacy.

Assess Governance Frameworks: Evaluate existing governance structures and propose frameworks to effectively oversee AI development and application.
3.[10]Learning Theories for Artificial Intelligence Promoting Learning Processes(May 2023).

Problem Statement: The rapid integration of artificial intelligence (AI) into educational settings necessitates a comprehensive understanding of how AI can effectively promote learning processes. Existing learning theories often operate in isolation, lacking a unified framework that addresses the multifaceted roles of AI in education. This fragmentation hinders the development of AI applications that can holistically support individual learners, collaborative teams, and broader cultural groups.

Objectives:
Synthesize Learning Theories: Develop a unified model that integrates existing learning theories to better understand and facilitate AI's role in promoting learning processes.
4.[12] Article K-12 Education in the Age of AI: A Call to Action for K-12 AI Literacy," (June 2023.).

Problem Statement: As artificial intelligence (AI) becomes increasingly integrated into various aspects of society, there is a pressing need to prepare K-12 students to understand and engage with AI technologies. However, current educational curricula often lack comprehensive AI literacy components, leaving students unprepared for future challenges and opportunities associated with AI.

Objectives:
Define AI Literacy: Provide a clear and comprehensive definition of AI literacy tailored for K-12 education.
extent of public awareness regarding AI's presence and functionality in these everyday applications. This lack of awareness may impact public engagement with AI-related discussions and policy debates.
5.[13]Impact of Artificial Intelligence on Students' Sustainable Education and Career Development Using Extended TOE Framework(July 2023).

Problem Statement: The integration of Artificial Intelligence (AI) in education is reshaping traditional learning paradigms, offering personalized and efficient educational experiences. However, there is limited understanding of how technological, organizational, and environmental factors influence students' attitudes toward AI, and how these attitudes impact sustainable education and career development.

Objectives:
Assess Awareness Levels: Evaluate students' awareness and understanding of AI technologies in educational settings.

Analyze Influencing Factors: Identify technological, organizational, and environmental factors that shape students' attitudes toward AI, using the extended Technology-Organization-Environment (TOE) framework.
6.[14] Artificial Intelligence in the 21st Century: Opportunities, Risks, and Ethical Imperatives (2024)

Problem Statement: Artificial Intelligence (AI) is rapidly advancing, offering significant opportunities across various sectors. However, these advancements bring forth challenges, including ethical dilemmas, risks of bias, privacy concerns, and potential societal impacts. There is a pressing need to understand and address these issues to harness AI's benefits while mitigating its risks.

Objectives:
Examine AI Opportunities: Analyse the potential benefits of AI in sectors such as healthcare, education, and industry.

Identify Associated Risks: Investigate the risks linked with AI deployment, including ethical concerns, biases, and privacy issues.

Propose Ethical Imperatives: Recommend ethical guidelines and frameworks to ensure responsible AI development and utilization.
7.[11] Accelerating the Integration of ChatGPT and Other Large-Scale AI Models into Biomedical Research and Healthcare (2023).

Problem Statement: The rapid advancement of large-scale artificial intelligence (AI) models, such as ChatGPT, presents significant opportunities to enhance biomedical research and healthcare. However, the complexity and substantial resource requirements for developing and maintaining these models pose challenges to their widespread adoption in clinical

settings. Addressing these challenges is essential to fully leverage AI's potential in improving healthcare outcomes.

Objectives:
Overview of AI Models: Provide a comprehensive overview of advanced large-scale AI models, including language models, vision-language models, graph learning models, language-conditioned multiagent models, and multimodal embodied models.

Application in Healthcare: Explore the potential applications of these AI models in various aspects of biomedical research and clinical practice.
8.[8] Research paper "Artificial Intelligence in Higher Education: Challenges and Opportunities"(January 17, 2022).

Problem Statement: The integration of Artificial Intelligence (AI) in higher education presents both significant opportunities and challenges. While AI has the potential to enhance learning outcomes, improve accessibility, and streamline administrative processes, its adoption also raises concerns regarding ethical implications, data privacy, and the readiness of educational institutions to effectively implement AI technologies.

Objectives:
Evaluate AI Opportunities: Assess the potential benefits of AI integration in higher education, including personalized learning, improved accessibility, and enhanced administrative efficiency.

Identify Challenges: Examine the challenges and risks associated with AI adoption in educational settings, such as ethical considerations, data security, and the digital divide.
9.[7] Artificial Intelligence in Information Systems Research: A Systematic Literature Review and Research Agenda.

Problem Statement: The integration of Artificial Intelligence (AI) into Information Systems (IS) has garnered significant attention in recent years. However, there is a lack of comprehensive understanding regarding the current state of AI research within the IS discipline, including prevalent research themes, methodologies, and potential areas for future investigation.

Objectives:
Conduct a Systematic Literature Review: Analyze AI research within the IS field from 2005 to 2020 to identify prevailing themes and methodologies.

Develop a Research Agenda: Propose future research directions to advance the integration of AI in IS.
10.[6] Article titled "AI-enabled Adaptive Learning Systems: A Systematic Mapping of the Literature"(2021)

Problem Statement: The integration of Artificial Intelligence (AI) into adaptive learning systems has the potential to revolutionize education by providing personalized learning experiences. However, there is a lack of comprehensive understanding regarding the current state of

research in this area, including the types of AI interventions employed, prevalent research themes, and the methodologies utilized.

Objectives:
Conduct a Systematic Mapping: Analyze existing literature on AI-enabled adaptive learning systems to identify key research themes, methodologies, and types of AI interventions used.

Visualize Research Trends: Map the co-occurrences of authors associated with major research themes to understand collaborative patterns and research focus areas.

3. Theory/Calculation

This section should extend, not repeat the information This section elaborates on the theoretical foundation of this research, which is grounded in well-established models such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). These models provide a framework for understanding the various factors influencing students' perceptions and attitudes toward adopting AI in educational settings.

The adoption of AI technologies in educational contexts is influenced by several factors. Building on TAM and UTAUT, we hypothesize that Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), along with other factors from UTAUT (i.e., Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC)), play a significant role in shaping students' attitudes toward AI adoption.

Perceived Usefulness (PU) and **Perceived Ease of Use (PEOU)** will have the most significant influence on students' attitudes, as supported by previous research in technology adoption studies. Additionally, **Performance Expectancy (PE)** and **Effort Expectancy (EE)** are expected to contribute positively, reflecting students' preference for technologies that are not only useful but also easy to use. Social influence and facilitating conditions will also play a role but may have a smaller impact compared to the other factors.

4. Experimental Method/Procedure/Design

This study utilizes a **quantitative research design** with a **cross-sectional survey approach** to assess college student's awareness and perceptions of AI. The research focuses on gathering primary data through a structured questionnaire distributed via Google Forms. The study targets undergraduate and postgraduate students from a college in Jalandhar City. A structured questionnaire with 15 questions was developed and administered through Google Forms. questions were designed to assess student's knowledge of AI, including its applications and technologies. Responses were collected via Google Forms and exported to a spreadsheet for analysis. questionnaire was distributed to students to assess their awareness about AI.

5. Results and Discussion

In this research paper, the methodology involved collecting primary data through a Google Form survey. The use of Google Forms is a modern and efficient way to gather data, allowing for easy distribution and collection. The survey consisted of 15 questions focused on awareness of AI. Google form was distributed among 130 students and 62 students gave the responses This structured approach helps in obtaining specific insights into students' perceptions. Analysis of collected data is as below.

Figure 1: Awareness percentage of students about AI.

98.4% of students indicated that they are aware of the concept of AI. The extremely high percentage suggests that the majority of college students in Jalandhar City are familiar with AI. This indicates effective dissemination of information about AI in educational contexts, media, or through personal experience.
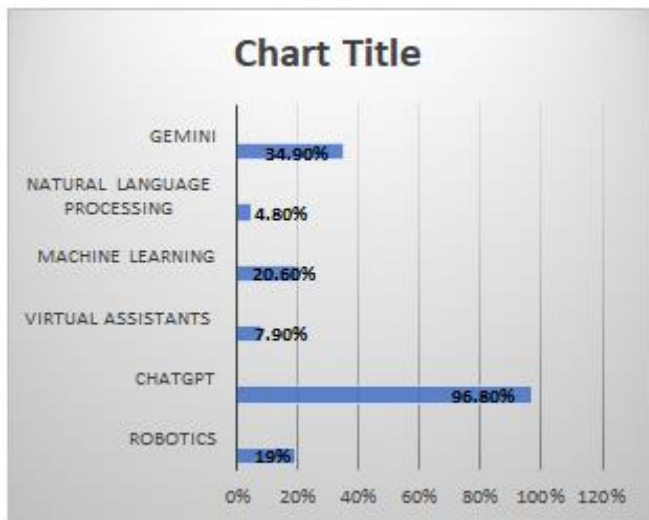
Figure 2: Knowledge of students about AI technologies.

Rate: 96.8% of students identified ChatGPT as the AI technology. The familiarity with ChatGPT suggests that educators might consider integrating AI tools into teaching methodologies, using them as resources for learning and engagement. Students are not aware of the broader AI landscape.
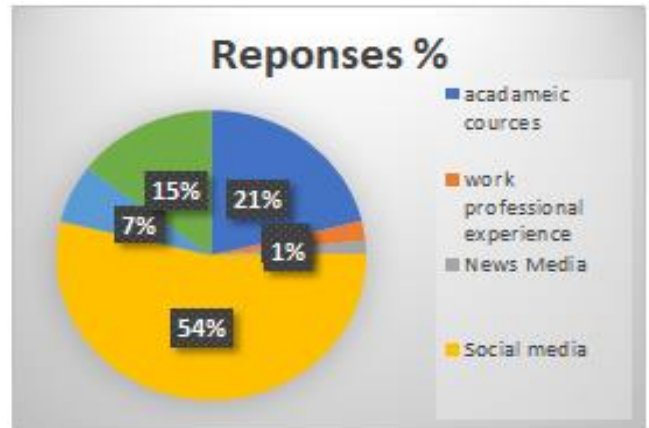

Figure 3: platforms helped students to learn AI.

54% of students learn from social media, 21% from academic media, and 15% from friends, which highlights social media's significant role in education today.
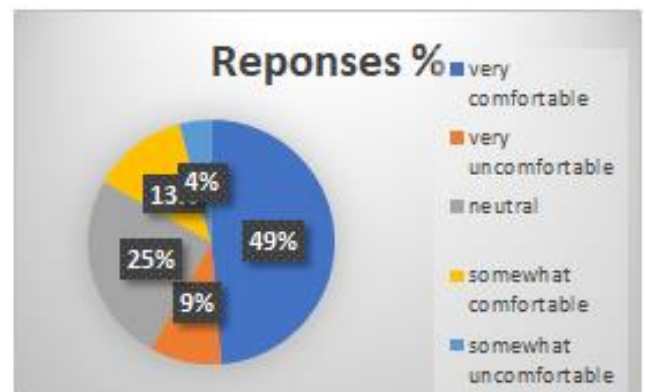

Figure4: comfort level regarding AI decision Making.

survey results show a fascinating mix of comfort levels regarding AI decision-making. With nearly half of the respondents (49%) feeling very comfortable, it suggests a growing acceptance of AI technology. However, the significant portion (25%) that remains neutral or uncomfortable indicates some hesitation, likely due to concerns about trust, transparency, or privacy.
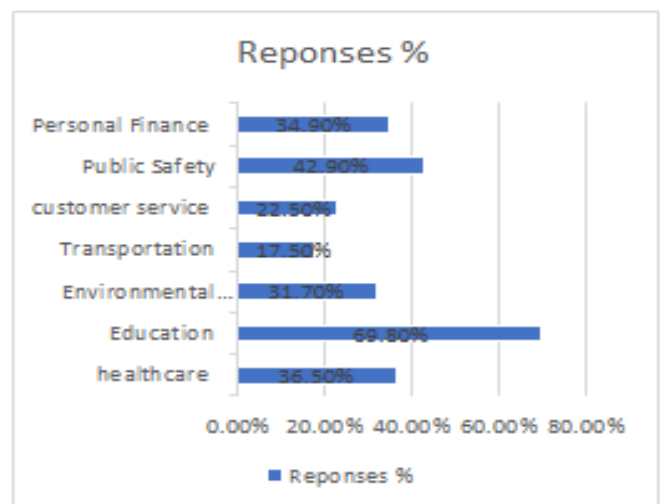

Figure 5: implementation of AI in various sectors.

The survey results provide insights into public preferences for AI implementation across various sectors. 69.8% of respondents expressed strong interest in utilizing AI to enhance learning experiences through personalized education. 42.9% of students supports AI in public safety. 36.5% of respondents acknowledged the potential benefits of AI in diagnostics and patient care. 34.9% interest, reflecting a growing acceptance of AI tools for budgeting and investment, while 31.7% of respondents showed moderate interest in applying AI to environmental protection, suggesting a need for increased awareness in this area. Customer service (22.2%) and transportation (17.5%) received the lowest support.
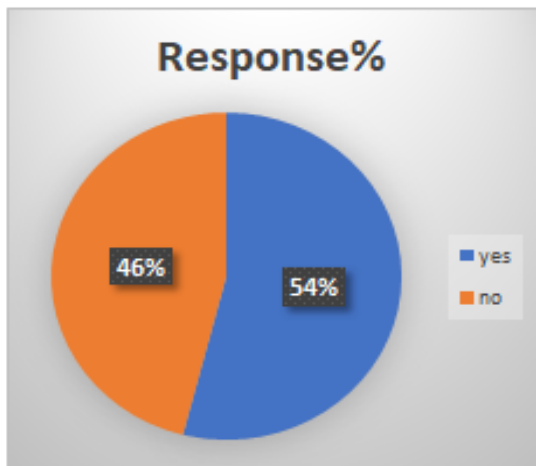

Figure 6: Students' views on whether AI should replace human workers in certain jobs.

The survey results indicate a divided perspective among students regarding whether AI should replace human workers in certain jobs. With 54% in favour, it suggests a belief that AI can enhance efficiency, reduce costs, and take over repetitive or dangerous tasks, potentially allowing humans to focus on more complex and creative work. However, the 46% who oppose this replacement likely express concerns about job security, the loss of human touch in various professions, and the ethical implications of relying on machines over people.
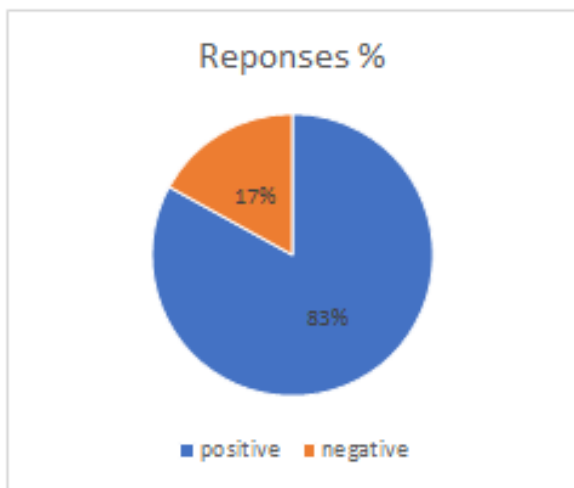

Figure 7: impact of AI in life

The survey results show a strong belief among respondents that AI will positively impact their lives, with 83% expressing confidence in its benefits. The overwhelming majority suggests a hopeful outlook on AI's role in shaping a better future.
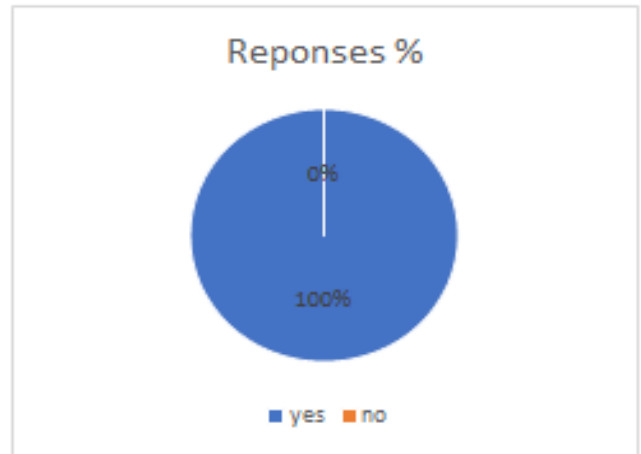

Figure 8: level of advancement of AI in future.

100% of participants believe AI will make significant advancements in the next five years reflecting a strong consensus on the rapid evolution of AI technology.

6. Conclusion and Future Scope

The study "Perception Towards AI Usage and Implementation: A Study on College Students of Jalandhar City" aims to shed light on the awareness and attitudes of college students towards artificial intelligence (AI). The study reveals varying levels of AI awareness among college students across different departments. Students from technology-related disciplines generally exhibit a higher understanding of AI than those from non-technical fields. This discrepancy highlights the influence of academic background on AI knowledge. Students' perceptions of AI are multifaceted, encompassing positive and negative aspects. [2] Artificial intelligence can change routine tasks, reducing the need for manual workers and allowing businesses to operate more efficiently. On the other hand, there are concerns about the ethical implications, job displacement, and privacy issues associated with AI technologies. The research identifies significant differences in AI awareness and perceptions among students from various departments. For instance, engineering and computer science students demonstrate more familiarity with AI concepts and applications compared to those from humanities or social sciences backgrounds. this study highlights the diverse perceptions and varying levels of AI awareness among college students in Jalandhar City. As AI continues to evolve and integrate into different facets of life, educational institutions must foster a more inclusive and comprehensive understanding of AI. By addressing the gaps identified in this study and promoting interdisciplinary education, we can better prepare students for the opportunities and challenges that AI presents in the future. findings reflect a complex view of AI's potential impact on employment and the economy.

Based on the analysis of the survey data, several key insights about students' awareness, knowledge, perceptions, and expectations regarding Artificial Intelligence (AI) .students (98.4%) are familiar with the concept of AI, which suggests that AI has become an integral part of modern education, media, and public discourse. This widespread awareness is promising, as it reflects the effectiveness of information dissemination through various channels, including education and media.

The survey results suggest that students in Jalandhar City are highly aware of AI and optimistic about its future, but they also exhibit mixed feelings regarding its ethical implications, particularly concerning job displacement and decision-making authority. There is a strong interest in AI's application to sectors like education, public safety, and healthcare, indicating that students are eager to explore AI's potential to enhance various aspects of society. However, some concerns need to be addressed, particularly regarding transparency, trust, and the potential for AI to replace human workers. This study underscores the need for continued education and dialogue on AI to foster a more informed and balanced perspective on its development and integration into everyday life.

This study focuses on college students in Jalandhar. Future research can expand the scope by exploring the perceptions of AI among students in different regions of India or even internationally

Data Availability
The primary data for this research would likely be gathered through surveys, questionnaires, or interviews with college students in Jalandhar. The survey or questionnaire would include questions designed to assess students' perceptions of AI, their knowledge and understanding of AI.

Conflict of Interest
Does not have any conflict of interest.

Funding Source
None.

Authors' Contributions
Only one author(Monika Author-1) is responsible for all aspects of the research from the initial concept to the final submission.

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