



ARTIFICIAL INTELLIGENCE: A BOON AND BANE FOR SENIOR CITIZEN

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Abstract: Science's field of artificial intelligence is concerned with giving machines more human-like ways to solve challenging issues. The area of computer science focuses on getting computers to behave more like people. This typically entails taking traits from human intelligence and applying them as algorithms in a way that is computer friendly. Depending on the defined needs, a more or less flexible or efficient strategy might be used, which affects how artificial the intelligent behavior seems. The demand to create new technology to aid in bettering care for the world's aging population is increasing. Numerous social, economic, and health issues need to be resolved due to how quickly the older adult population is expanding. AI can be very helpful in this area by assisting the healthcare system in meeting the rising demand for senior healthcare services. In this study, we'll examine how AI is helping seniors take better care of themselves. AI-powered products and technologies can assist seniors in maintaining their independence while also improving their quality of life. But, AI may employ threats to senior citizens. They may require support in coping with new technology and managing AI-powered products. Furthermore, elders may be particularly concerned about data privacy and the possibility of misuse or malfunction. AI can benefit seniors in many areas, but seniors must cautiously approach it. Senior citizens must have access to the necessary training and support to use AI safely and successfully. Furthermore, improvement plans to prevent issues such as data protection and ensure that AI is used legally are necessary. Concerning the keywords used, the acronyms and terms that were provided in the some manner were advantageous to the reader in order to educate themselves on the ideas that have been visible in the text while he was reading it.

Keywords: ARTIFICIAL INTELLIGENCE, A BOON, BANE, SENIOR CITIZEN.

INTRODUCTION

Artificial Intelligence (AI) usually refers to intelligence that machines display. Moreover, AI is said to be promising and visionary. In addition to that, it transforms the nature of almost everything which is connected to human life. In the modern era, AI has revolutionized our lives in many facets, from a simple touch cellphone to an embodied conversational interface. AI can replace risky or repetitive labor, freeing up the human workforce. In the following years, there is no doubt that AI will continue to permeate every aspect of our life, from entertainment to security, healthcare to education.

According to World Population Prospects, 1 in 6 persons worldwide will be above 65 by 2050. The revolution in longevity is happening in every society on earth. Some of them are just getting started, while others are well along. But everyone will go through this unexpected change when the likelihood of living to 65 increases from less than 50%. According to Philippine Statistic

Authority (PSA), 7.5% or 7,548,769 of the 100,981,437 Philippines' total population in the 2015 census were senior. The fast aging population will impact developing economies' social, economic, and health results worldwide.

The statement "Artificial Intelligence (AI) is a boon or a bane for senior citizens" refers to the ongoing debate about AI technology's impact on older adults' lives. On the one hand, AI has the potential to significantly improve the quality of life for seniors by making everyday tasks easier and providing access to healthcare and other services. For example, AI-powered devices such as voice assistants can help seniors with mobility issues control their home appliances, make phone calls, and access the internet. Furthermore, AI-powered healthcare systems can assist seniors in monitoring their health and connecting with doctors remotely.

LITERATURE REVIEW

From Charlene H Chu, RN, GNC(c) Ph.D. et al. (2022) in the journal, artificial intelligence (AI) and machine learning are

continually changing our world with possible consequences in fields such as health medical services, youth development, job growth, financial services, and legislation. AI systems are generated with information representing the general societal unconscious and apparent assumptions, resulting in substantial concerns about how AI systems' growth predictions amplify injustice, wealth, and socioeconomic dominance. The constantly increasing adoption of artificial intelligence has led to a traditional argument about how AI technologies replicate racial prejudice, sexism, and social inequality, and still, discussions about age discrimination have been nearly non-existent, mainly from the AI learning sector. Even though the world has ever known older population as well as the advancement of AI, it is essential to systematically evaluate the prevalence of maturity level discrimination in Artificial intelligence systems.

Another, Y. Nakoku. et al. (2021) investigated memory deficits in elderly individuals employing AI in-house power management. Monitoring systems have already been used to determine mental impairment in senior citizens by actively looking at everyday actions. Individuals are monitored to examine household appliance usable capacity changes among individuals with cognitive problems. In this experiment, to assess whether adults are inconspicuous, seniors may use in-house power monitoring technologies to anticipate lead to negative consequences.

Moreover, the article by Graham S. et al.(2019) states that preserving intellect and mental capacity is vital to age with autonomy. Early diagnosis of pathological cognitive decline allows restorative or preventative interventions to influence significantly. The application of computing algorithms that simulate human cognitive processes to evaluate complex medical data is called artificial intelligence (AI) in healthcare. AI technologies such as machine learning (ML) enable the integration of biological, psychological, and sociological aspects in diagnostic techniques, prediction, and treatment. While in the article by Chattaraman et al. about AI-based, communicative digital assistants utilizing a social-or undertaking approach to dealing, consumers of Digital expertise and the intelligent assistant's interactional style seemed to have a strong correlation impact on the public, operational, and cognitive reasoning outcomes. Especially for senior Internet users who necessitate minimal job support, socioeconomic ai solutions provide more substantial welfare consequences (enhanced sentiments of two-way connection and respect for the project's reliability).

Limited senior users evidenced markedly higher intellectual (low personal information demand) and functional status once the software platform implemented the undertaking relationship approach (improved facilitating conditions and consciousness in more straightforward navigation). The relevance of concept and operator development is explored.

METHODOLOGY

To test the effects and issues of artificial intelligence, which senior citizens commonly use, researchers will employ an analytical method that focuses on interdisciplinary analytical techniques, combining economic projections, technological history, and a systematic description of the multiple threat scenarios

RESULTS

The manuscript should be typewritten in a word processor. The text should be single space in a Candara font style with font size of 12 (except for the title and first level headings) throughout the document. Use APA (6th edition) citation and referencing style. Use the default settings (Letter size with 1 inch margin in all sides) of the word processor. Your manuscript **SHOULD NOT EXCEED** the page limit (25 pages for long papers, 15 pages for short papers, and 10 pages for position papers). If your paper exceeded the page limit, you may truncate the paper or pay an extra page cost of US\$5/page. (We strongly advised to weigh in your options. Do not truncate the paper at the expense of clarity. Language editing may do the trick.) Leave one space at the start and end of paragraphs, tables, figures, and headings.

DISCUSSION

Artificial intelligence (AI) techniques are revolutionizing a diverse range of industries, notably preventive healthcare and medicine for only the senior, in which they can assist in determining healthcare challenges that arise, promote drug development, and promote the personalizing of medication management. Artificial intelligence would play an essential role in health improvement. This arrival of AI healthcare professionals has become unavoidable. AI is currently employed in institutions to allow doctors to make medical judgments, which includes recognizing healthcare dangers, projecting when and how to administer focused, existing medications, designing therapeutic interventions for patients suffering from rare diseases, and providing clinical management. Unfortunately, one of AI's strengths potentially operates to its disadvantages in healthcare. Even though AI is excellent at generating objectively, entirely sensible decisions, it does need support in recognizing the dynamic interrelationships of everyday psychological, economic, cultural, and physical aspects. If administered totally by AI, the diagnosis and treatment plan may be appropriate, but they may diverge from what the individual responds to most successfully. Modern doctors can treat patients rather than just illnesses. They will be able to comprehend nonverbal messages, know when and how to drill down for a greater understanding of the medical illness, and figure out the treatment plan most likely adequate for that patient. AI information may be misrepresentative of senior citizens or tainted by preexisting ageist preconceptions, racism, or bias. The development and implementation of these tools may be hindered by erroneous assumptions about how older people want to use technology in their daily lives.

Using AI technologies could reduce interpersonal interaction or worsen only impediments to applying technology. The eight factors listed below could guarantee that ageism is addressed and that older people are fully included in the systems, processes, technology, and services that influence them actively including older people in the design of AI technologies age diversity in data science teams, collecting data that is age inclusive, investments in digital infrastructure and digital literacy for older persons, their caregivers, and the professionals who care for them. rights to consent and object for elderly people Frameworks for governance and rules to support and assist senior citizens, more studies on ways to eliminate bias, and new applications of AI, AI development, and application processes with solid ethics Despite some disagreement about the appropriateness of AI-enhanced

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treatments in LTC services, this study found no evidence to support the treatments' efficacy for older people. According to some statistics, intelligent technologies may boost social contact and mood, but the proof of the other technologies and outcomes could have been more precise and more conclusive. A conceptual was impossible since most studies analyzed a wide range of data that were difficult to combine meaningfully. Several studies also had low power and a moderate to high risk of bias.

VALUABLE AND CONCISE INFORMATION

The age range is constantly exploring to adapt to the online revolution's rapid pace. On the other hand, senior citizens may benefit the greatest from the latest significant technological artificial intelligence advancements. With an older population and the associated costs, it has become more necessary than ever to enhance techniques for aiding the elderly. Furthermore, senior adults' willingness to embrace new technologies suggests a potentially new marketplace for developers.

One approach could be artificially intelligent chatbots and customer service. Strong chatbots with natural language processing (NLP) capabilities may be proven to be good companions for older adults at a time when professionals are limited. Not only will the best chatbots ease lonely old people by encouraging them to take their medicine, but they may also preserve prior discussions and provide memory games to aid those with Alzheimer's disease. Furthermore, information systems and artificial intelligence can track an elderly user's health and alert doctors to any abnormalities in their state or potential problems.

Artificial intelligence overcomes the disparity.

According to Age U.K., nearly half of all persons over 75 live alone, and more than a third don't communicate with anyone daily. There is a widespread problem with the number of elderly people and the worrying lack of caretakers to care for them. With one in every five Americans expected to be elderly by 2030, the healthcare sector may well be double as huge as any other since the mid-1960s. Devices we are using today may call artificial intelligence to assist with a shortage of nurses to fill the hole.

What if chatbots were senior citizens' new best friends?

Chatbots: the next fashionable companion for the elderly? Bots can be invaluable in assisting the elderly as companions and as tools to preserve their physical and mental health. Chatbots used to have daily conversations with seniors. A group of elderly adults in San Francisco is experimenting with a device called ElliQ.

Their device employs machine reading to learn human proprietors' interests. ElliQ communicates nonverbally in addition to verbally. For example, when family members upload prints to Facebook, ElliQ might display them on the screen before moving its head towards the person to "partake in the experience," similar to how a grandchild could say prints in person. Instead of developing physical connections using machines, those methods make the material more accessible to senior citizens while ensuring they do not feel alone.

Whereas the worldwide populace quickly ages, innovation keeps improving as well. That's why there's a call for senior care to adjust to the ever-changing scene of today's innovation. In any case, an in-depth examination uncovers that innovation is undoubtedly a portion of senior care for a long time. From the web to computers, these all play critical parts in caring for our elderly.

But one rapidly rising thing is the utilization of Manufactured Insights (AI) in elderly care.

So, what role will AI play in caring for our senior citizens? Find out now.

1. Increased communication

Regarding the family's seniors, it's crucial to have continual communication. Using AI-enabled technologies, such as Alexa in mobile, IoT, or apps, would enable family members and the care team to improve communication to provide better care for their elderly loved ones. For senior citizens receiving at-home care, it is essential. For instance, an SOS device in an emergency will immediately tell the entire care team.

2. AI chatbots can be used to keep seniors company.

Everyone needs to run to live in today's fast-paced world. Most of our time is spent working, so spending time with our elderly family frequently takes a backseat. The companionship that the elderly sorely want can be provided through AI chatbots. These social robots are responsible for reminding patients when to take their medications when to visit the doctor, or even when they need to eat. Some of them can also let elders know if there are nearby social gatherings, enticing them to go out and mingle.

3. AI technology can anticipate and avoid falls.

Seniors who live alone often worry that if they fall, no one will be there to catch them. Fortunately, a new wearable AI device can foresee falls or possibly stop them. Older individuals now have an excellent opportunity to feel secure enough to get outside. Because they fear falling, they do not always have to remain restricted to their house.

4. AI sensors can inform emergency services

Any technology can detect a senior's fall or injury by installing AI-powered sensors in their house. Following that, indications for assistance will be sent automatically to the emergency services. For elderly persons living alone at home, it's an additional source of security and trust.

5. Continuous monitoring can be provided through implants and wearables

Through wearables, implants, and other types of sensors, technology and artificial intelligence will continue to drive continuous healthcare for senior citizens. These tools will virtually entirely diagnose and keep track of elderly patients' medical issues. The doctor can utilize the information they will gather to make specific lifestyle choices, including how much exercise to get or whether to change medications.

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.Conclusion

Artificial Intelligence (AI) can be a boon for senior citizens in many ways but poses potential risks. On the positive side, AI-powered devices and technologies can help senior citizens to maintain their independence and improve their quality of life. For example, wearable devices with AI can monitor vital signs and remind seniors to take medication on time. Additionally, AI-powered home assistants can help seniors to stay connected with family and friends and make their daily routines more manageable. However, AI also poses potential risks for senior citizens. They

may need help adapting to new technology and need help operating AI-powered devices. Additionally, data privacy concerns and the possibility of misuse or malfunction can be particularly troubling for seniors. Overall, the problem is that senior citizens may need help to benefit from AI advancements fully and may be negatively impacted by the displacement of jobs. It is essential to consider older adults' unique needs and perspectives in developing and implementing AI technologies to ensure they are included in the digital age. In conclusion, AI can be a boon for senior citizens in many ways, but it is vital to approach it cautiously. It is crucial to ensure that senior citizens have access to the appropriate training and support to help them use AI safely and effectively. Additionally, it is essential to take proactive measures to mitigate risks such as data privacy and ensure that AI is used ethically.

Improve user-friendliness: Create interfaces and controls for seniors that are simple and intuitive, with larger text and buttons and minimal complexity. Make AI-powered products and services more accessible to seniors with visual, auditory, or mobility impairments by providing alternative interfaces such as voice commands or tactile feedback. **Personalization:** Create AI systems that can learn and adapt to individual elders' specific needs and preferences, such as understanding their routines and habits, allowing the system to appear more relevant and valuable to them. **Prioritize safety:** Create AI systems with fall detection features or emergency response systems that can quickly alert caregivers or emergency services in the case of an emergency. **Social engagement:** Create AI systems, such as peer social robots or virtual reality experiences, to help seniors reduce loneliness and isolation. Ensure seniors have access to training and support to help them learn how to use AI-powered goods and services and provide ongoing assistance to continue using them effectively. Continuously monitor and collect feedback from senior users to understand how and what can improve AI systems to serve their needs better.

IMPLICATIONS

The statement "Artificial Intelligence (AI) is a boon or a bane for senior citizens" refers to the ongoing debate about AI technology's impact on older adults' lives. On the one hand, AI has the potential to significantly improve the quality of life for seniors by making everyday tasks easier and providing access to healthcare and other services. Artificial intelligence (AI) technology is altering various areas, notably the healthcare system and geriatric medicine. Doctors can utilize these technologies for seniors to detect health risks and incidences, advance pharmaceutical

research, improve care operations personalization, and many other things. Furthermore, machine intelligence will significantly influence the future of health.

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DECLARATIONS

Conflict of Interest

All authors declared that there is no conflict of interest.

Informed Consent

It may not be applicable because this paper is a review article and no respondents are involved.

Ethics Approval

It may not be applicable because this paper is a review article and no respondents are involved.

References

1. Chattaraman, V., Kwon, W. S., Gilbert, J. E., & Ross, K. (2019). Should AI-Based, conversational digital assistants employ social-or task-oriented interaction style? A task-competency and reciprocity perspective for older adults. *Computers in Human Behavior*, 90, 315-330. Chu, C. H. et.al.,(2022).
2. Chu, C. H., Nyrupe, R., Leslie, K., Shi, J., Bianchi, A., Lyn, A., ... & Grenier, A. (2022). Digital ageism: Challenges and opportunities in artificial intelligence for older adults. *The Gerontologist*, 62(7), 947-955.
3. Collins, C., Dennehy, D., Conboy, K., & Mikalef, P. (2021). Artificial intelligence in information systems research: A systematic literature review and research agenda. *International Journal of Information Management*, 60, 102383.
4. Nakaoku, Y., Ogata, S., Murata, S., Nishimori, M., Ihara, M., Iihara, K., ... & Nishimura, K. (2021). AI-assisted in-house power monitoring for the detection of cognitive impairment in older adults. *Sensors*, 21(18), 6249.