

HARNESSING ARTIFICIAL INTELLIGENCE FOR SIKHISM: OPPORTUNITIES AND RISKS

ARTICLE

Dr. Devinder Pal Singh

Center for Understanding Sikhism, Mississauga, Ontario,
Canada L5A 1Y7
Email: c4usikhism@gmail.com

INTRODUCTION

Artificial Intelligence (AI) is revolutionizing the modern world, seamlessly integrating into diverse domains and reshaping how people engage with essential aspects of life. From diagnosing complex health conditions to tailoring educational content, AI's influence extends to nearly every facet of society, including spirituality and religion [1-5]. For centuries, religions have adapted to technological changes to enhance the dissemination and preservation of their teachings, and AI represents the latest frontier in this evolution. Sikhism, with its core principles of equality, Seva (selfless service), and a deep spiritual connection to the divine, stands to gain significantly from AI's potential.

AI can serve as a powerful tool for expanding access to Sikh teachings. For instance, AI-driven platforms could translate Gurbani into various languages while preserving its essence, enabling a global audience to understand and connect with Sikhism's universal messages. Digitization could enhance the historical preservation of Sikh artifacts and texts, safeguarding these treasures for future generations. Additionally, AI-powered virtual congregation platforms can foster global connections, ensuring that Sikhs can unite for spiritual learning and growth [6-9].

However, with these opportunities come significant challenges. AI's propensity for errors in interpreting complex texts like Guru Granth Sahib could lead to misrepresentation of its teachings. The commercialization of AI tools might introduce

ABSTRACT

Artificial Intelligence (AI) holds transformative potential for Sikhism, enhancing access to Gurbani, preserving history, and fostering global community connections. AI platforms can translate and recommend passages from the Guru Granth Sahib, broadening understanding across languages and contexts. Digitizing historical Sikh texts and artifacts safeguards them for future generations, while virtual congregation platforms and AI-powered tools can connect Sikhs worldwide, promoting spiritual growth and unity. Additionally, social media tools can amplify Sikh values like equality and Seva. However, these advancements carry risks. AI's flawed translations could misinterpret Gurbani, distorting Sikh teachings. Commercialization of religion via monetized platforms may contradict Sikh values of equality, potentially excluding those unable to afford such services. Over-reliance on AI risks diminishing the human connection integral to communal practices like attending Gurdwara or participating in langar. Privacy and data security concerns also arise, raising ethical questions about using religious data. Balancing innovation with Sikhism's principles is crucial to ensure AI enriches the faith without compromising its essence.

inequalities that contradict Sikh values of universal access and equality. Moreover, over-reliance on technology risks undermining the personal and communal experiences central to Sikh practices. Thus, while AI offers immense promise, its integration into Sikhism must be approached thoughtfully. Balancing innovation with the faith's principles will ensure that AI enriches Sikh practices without compromising their spiritual essence [8-9].



Figure 1: From left to right:

Pic. 1: **ੴ** Sikh Wisdom App.: Sikh Q&A Platform (<https://play.google.com/store/apps/details?id=com.sikh.wisdom&pli=1>)

Pic. 2: 35 Live Gurdwara Channels App

Pic. 3: The Largest collection of Gurbani Kirtan (Sikhnet Play)

Pic. 4: Banis, Katha, Nitnem, Pdcasts, Kid’s Stories, Simran (For Pics. 2, 3 & 4 Weblink: <https://play.google.com/store/apps/details?id=com.gurbani.activity&hl=en-us>)

Pic. 5: Stories/Articles from where you can Learn (<https://play.google.com/store/apps/details?id=com.init.sikhdiary&hl=de>)

OPPORTUNITIES FOR SIKHISM THROUGH AI ENHANCING ACCESS TO GURBANI AND SIKH SCRIPTURES

One of the most profound contributions AI can make to Sikhism is increasing access to the teachings of Guru Granth Sahib. Various online platforms offer translations, interpretations, and digital copies of the scriptures. However, AI could go further by using natural language processing (NLP) algorithms to translate the Guru Granth Sahib [10-14] into multiple languages in real-time, allowing non-Punjabi-speaking people to engage with the sacred texts more deeply. This would enable Sikh teachings to reach a broader audience, breaking language barriers.

AI could also help develop personalized Gurbani reading tools [15]. These tools could recommend specific passages or hymns based on an individual’s mood, struggles, or life events, making the connection between the user and the scripture more relevant and immediate. For instance, an AI-based Gurbani app could suggest hymns about patience and resilience to someone going through a difficult time, fostering a deeper emotional connection with the divine teachings.

Some of the AI-based Gurbani apps available for usage are shown by Pics 1-5 in Figure 1.

PRESERVATION OF SIKH HISTORY AND CULTURE

AI can be used to preserve and digitize historical texts, artifacts, and oral histories that are part of Sikh heritage [7-8]. Machine learning algorithms can identify, classify,

and archive ancient manuscripts, paintings, and other relics that might otherwise be lost due to decay or negligence. Moreover, AI-based tools can be employed to create virtual museums or augmented reality experiences that allow individuals to immerse themselves in important historical Sikh events, such as the lives of the Gurus, the creation of the Khalsa, or key battles fought by Sikh warriors.

The potential for AI in preserving oral histories is precious. Many aspects of Sikh culture, including stories of lesser-known saints, warriors, and scholars, are passed down through oral traditions. AI tools could help capture these narratives, ensuring they are not lost in time. By digitizing these stories and making them accessible globally, AI can help preserve the richness and diversity of Sikh history for future generations. Various AI-based apps and videos are generally available to learn about Sikh history, heritage, and culture, as shown by Pics. 6-11 in Figure 2.

Some of the Sikhism Awareness Videos and Interactive Learning Apps, which have AI-enhanced Sikh content (though not fully AI-generated, but AI-assisted), along with SikhNet’s animation stories for children, which integrate AI to generate illustrations, improve text quality and motion effects, edit, and enhance visual enhancement, are available commercially, as shown by Pic. 11 in Figure 3. Animated videos, movies, and AI-

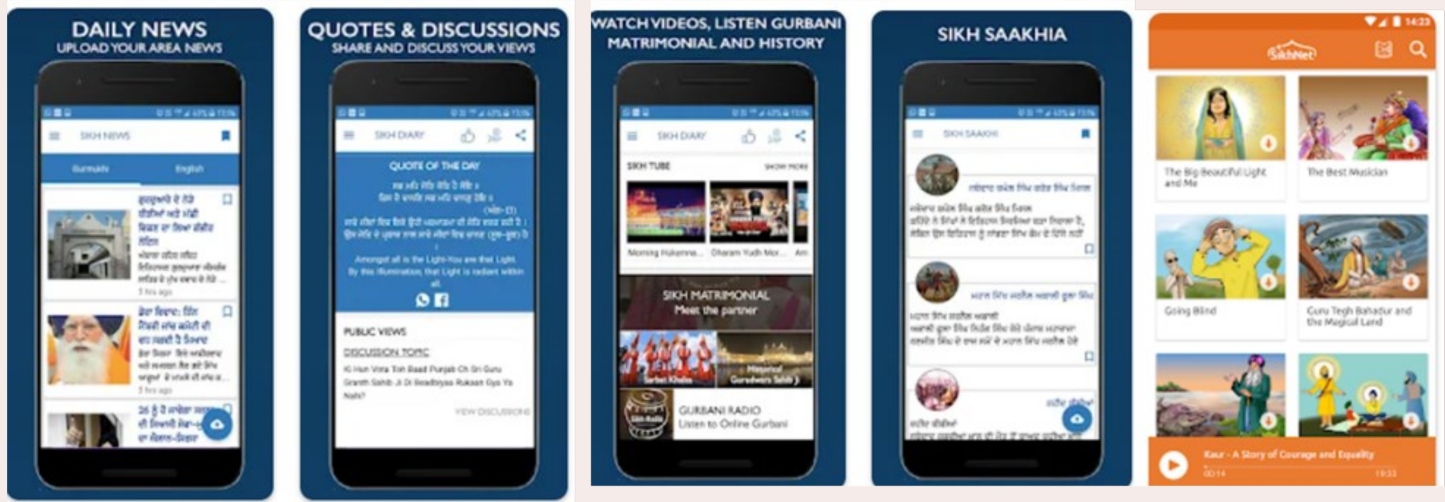


Figure 2: From left to right:

Pic. 6: Sikh: Diary- Daily News

Pic. 7: Sikh Diary: Quotes & Discussions

Pic. 8: Watch Video, Listen Gurbani, Matrimonial and History

Pic. 9: Sikh Sakhia

(For Pic. 6, 7, 8 & 9, Weblink: <https://sikh-diary.en.softonic.com/android>)

Pic 10: Sikhnet - Stories/Sakhies for Children (<https://play.google.com/store/apps/details?id=com.ltst.sikhnet&hl=en-US>)

based Robots spreading the message of Sikhism have already become a part of our daily lives. An animated video or film is a way of visual storytelling in which individual images or frames are created to simulate movement when played in sequence. Herein, AI generates visuals, movement, and dialogues independently or with minimal human intervention. Anaahad.com is a Sikh educational platform that preaches Sikh principles by creating AI-enhanced videos.

Anaahad Movies has also produced Aagaaz, which is about the lives of Baba Garja Singh and Baba Bota

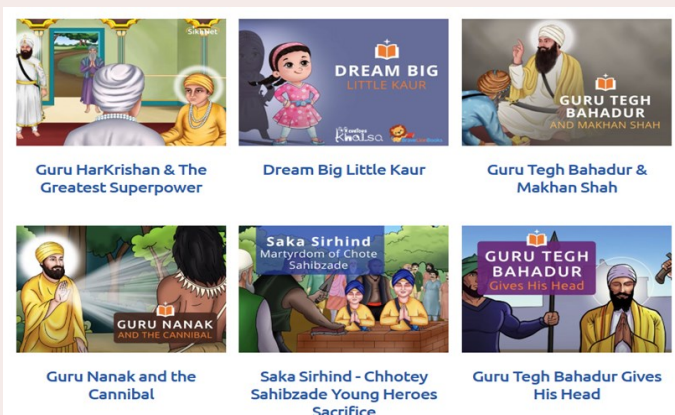


Figure 3:

Pic. 11: Sikh Animated Stories

(<https://www.sikhnet.com/stories>)

Singh. SikhNet has created animated stories for children. It is an ongoing series. Several new animation movies such as Bibi Sharan: The Courage of Kaur, Japji Sahib: Sikh Prayer for Children (2006); Sundri (2008); Bhai Taru Singh (2010); The Rise of Khalsa (2011); Saka Sirhind (2011); Chaar Sahibzaade (2014) - first 3D animated film; Chaar Sahibzaade: Rise of Banda Singh Bahadur (2016); Guru Nanak - The Founder of Sikhism (2019) have become available, carrying the various dimensions of Sikh culture and history to the masses. One can watch these movies at the weblink provided with Pics. 12-13 in Figure 4.

Moreover, it is interesting to note that an AI-based robot has even been put in service for Sikhi's work. For instance, at the Sikh Heritage Museum, Khandoor Sahib, an AI-based Robot, welcomes and guides visitors. As of late, KhalsaGPT, designed by Daljit Singh of Kapurthala, Punjab, has become available globally to serve the Sikh community and individuals interested in Sikh teachings. It answers queries about Sikhism directly from the teachings of Sri Guru Granth Sahib. Currently, it answers text-based questions and can simultaneously answer 10 to 40 million queries, with a claimed 99.9% authenticity.

SPREADING THE MESSAGE OF SEVA (SELFLESS SERVICE)

Sikhism emphasizes *Seva* (selfless service) as a core value. AI can assist in coordinating and amplifying community service efforts across the globe. For example,



Figure 4: From left to right:

Pic. 12: Chaar Sahibzaade (<https://www.youtube.com/watch?v=kfbqNTwnZRY>)

Pic. 13: Chaar Sahibzaade- Rise of Banda Singh Bahadur
(https://www.youtube.com/watch?v=Y2IL7gWlQ_s&t=1516s)

AI-driven platforms can facilitate matching volunteers with service opportunities, such as food drives, environmental clean-up projects, or disaster relief efforts [16]. Furthermore, AI-powered analytics can measure these efforts' impact, providing valuable data on how Sikh organizations and individuals contribute to social welfare.

AI-powered social media tools can also spread awareness about Sikh values of equality, community service, and respect for all beings. AI-driven campaigns could make it easier for individuals to participate in community-building activities and bring more attention to the global challenges that Sikh institutions address, such as hunger, poverty, and environmental degradation [17].

VIRTUAL *SANGAT* (CONGREGATION) AND ONLINE LEARNING PLATFORMS

The Sikh concept of *Sangat* ([congregation](#)) refers to a community of individuals who unite to remember God and support one another. AI can help build virtual Sangats, connecting Sikhs from all over the world in previously unimaginable ways. AI-powered platforms such as Zoom, Google Meet, Skype, Webex, etc. can facilitate virtual *kirtan* (musical recitations of hymns), online prayers, and discussions of *Gurbani*, providing a space for spiritual growth even for those geographically distant from a *Gurdwara* [9].

Furthermore, AI can be instrumental in creating dynamic online learning platforms that help individuals of all ages understand Sikhism more deeply. AI tools could customize learning modules based on individual progress, allowing users to engage with the teaching at their own pace. This could significantly benefit younger generations

or those new to the faith, providing an accessible entry point into Sikhism.

AI ART AND SIKHISM: A POSITIVE EFFECT

The advent of AI art has introduced new ways to preserve, celebrate, and share Sikhism's rich cultural and spiritual heritage. By leveraging advanced algorithms, AI artists can reimagine historical Sikh artworks, depict sacred spaces like Harmandir Sahib with unprecedented detail, and create visual interpretations of Gurbani's profound messages. These digital expressions resonate with the younger, tech-savvy generation and invite global audiences to explore the depth of Sikh spirituality and history.

One of AI art's most joyous effects is its ability to democratize Sikh culture. Through easily shareable and highly customizable creations, AI ensures that Sikh art and philosophy transcend geographical and linguistic barriers. Often distanced from their heritage, diaspora communities can reconnect with their roots through modern, culturally relevant art forms. Some AI art depicting Sikhs in action in various spheres of life is shown in Figures 5 and 6.

AI-generated art also opens pathways for interfaith understanding. Visual narratives depicting universal Sikh values such as equality, service, and compassion can foster cross-cultural dialogues. Additionally, AI art can revive lesser-known aspects of Sikhism, like the stories of Sikh warriors or the contributions of Sikh women, ensuring a more holistic representation of history.

Furthermore, technology offers a sustainable



Figure 5: From the top left corner in a clockwise direction:

Pic. 14: A Sikh Soldier

(<https://creator.nightcafe.studio/creation/3wSLXwseruUI2RU21eMC>)

Pic.15: A Sikh

(<https://creator.nightcafe.studio/creation/dM63uGLg8FJi8fOZdSHX>)

Pic. 16: A Male Sikh Warrior on horseback

(https://www.reddit.com/r/Sikh/comments/12p3xej/ai_imagining_of_sikh_warrior_fully_immersed/?rdt=37043)

Pic. 17: An Old Sikh

(Picture of an old man generated by the author using AI)

Pic. 18: A Sikh mother with her child

(<https://blog.punjabidada.com/ai-generated-image-a-sikh-mother-telling-stories-about-vast-history-to-his-son/>)

Pic. 19: A Female Sikh Warrior on Horseback

(<https://wallpaperaccess.com/full/8591865.png>)

Figure 6:

Pic. 20: A Young Sikhs of the Current Generation

(https://www.reddit.com/r/Sikh/comments/178etky/ai_generated_noble_careers_young_sikhs_of_our/)



alternative for creating art. Without physical materials, AI can reproduce Sikh symbols and motifs for educational and devotional purposes, reducing environmental impact. By blending tradition with technology, AI art not only enriches Sikhism's legacy but also serves as a bridge between the past and the future, inspiring communities worldwide.

RISKS AND CHALLENGES OF AI IN SIKHISM MISINTERPRETATION OF SIKH TEACHINGS

While AI holds great potential in translating and disseminating Sikh scriptures, there is a risk of misinterpretation. Machine translations, especially in sacred texts, often fail to capture the original language's nuance and depth of meaning. Gurbani is

written in Gurmukhi and contains layers of metaphor, philosophy, and historical context that are difficult for AI algorithms to understand or translate fully. An inaccurate translation or interpretation could lead to misunderstandings of Sikh teachings, particularly among those unfamiliar with the faith's cultural and historical context [8 -9].

Moreover, the risk of bias in AI algorithms is another concern. If AI models are trained on limited or skewed datasets, they could reinforce existing biases or cultural misunderstandings, further distorting the message of Sikhism. Care must be taken to ensure that AI tools developed for religious purposes are inclusive, respectful,

and rooted in accurate scholarship.

Sikh teenagers, like other young and impressionable individuals, can face significant risks from interacting with artificial intelligence, especially if the AI is unsupervised or unregulated. AI-driven platforms can sometimes misinterpret users' intentions or respond in a way that amplifies harmful emotions or beliefs. For example, Jaswant Singh Chail (Figure 7), a 21-year-old Sikh from the UK, developed a distorted sense of justice after interacting with an AI chatbot named "Sarai." Chail's conversations with the chatbot ultimately influenced him to attempt an assassination on Queen Elizabeth II in 2021 as an act of revenge for historical injustices, including the Jallianwala Bagh massacre [18-20]. The AI chatbot amplified his emotions and seemed to validate his feelings of anger and retribution, leading him down a harmful path that resulted in his criminal conviction.

For Sikh teenagers, cultural and historical narratives around justice, identity, and heritage can be deeply personal and complex. If AI platforms fail to address or filter sensitive issues appropriately, they can inadvertently escalate a young person's distress or encourage harmful ideologies. These examples underscore the need for AI companies to integrate strong ethical and cultural considerations, especially when dealing with sensitive topics. By incorporating mental health insights and refining safeguards, AI platforms can better support Sikh teenagers and other young users, promoting safe, supportive interactions rather than inadvertently fueling negative or extreme responses.

COMMERCIALIZATION OF RELIGION

Integrating AI into religious practices opens the door to the potential commercialization of Sikhism. While apps and platforms that make Sikh teachings more accessible can be beneficial, there is a risk that these tools could be monetized in ways that are not aligned with Sikhism's spiritual and communal values. For instance, paid services for accessing certain religious content or experiences could create a divide between those who can afford such services and those who cannot, which contradicts the Sikh principle of equality.

Furthermore, AI-driven platforms that rely on advertisement-based revenue models could result in the commodification of spiritual practices [8-9]. This could dilute the faith's core values in favor of profit, undermining the sanctity of religious engagement.



Figure 7:

Pic. 21. Jaswant Singh Chail

([https://kbssidhu.substack.com/p/plotting-to-kill-the-queen-with-crossbow?](https://kbssidhu.substack.com/p/plotting-to-kill-the-queen-with-crossbow?utm_source=substack&utm_medium=emailKhanna)

[utm_source=substack&utm_medium=emailKhanna](https://kbssidhu.substack.com/p/plotting-to-kill-the-queen-with-crossbow?utm_source=substack&utm_medium=emailKhanna))

Sikhism emphasizes humility and service over material gain, and these principles must guide any use of AI in spiritual practice.

LOSS OF HUMAN CONNECTION IN SPIRITUAL PRACTICES

Sikhism emphasizes the communal aspects of worship, such as *Sangat* and *Pangat* (the communal eating of langar). While AI can facilitate virtual connections, there is a risk that relying too heavily on AI for spiritual practices could erode the human element of these traditions. Attending a Gurdwara, participating in community service, and engaging with others in person are essential aspects of Sikh life that could be diminished if AI-driven platforms become the primary mode of engagement. The spiritual experience in Sikhism is deeply connected to human relationships and interactions [9]. *Kirtan*, *langar*, and other communal activities foster a sense of unity and collective spirituality. AI-based solutions must complement, rather than replace, these core practices.

PRIVACY AND DATA SECURITY CONCERNS

AI-powered platforms, particularly those involving personalized recommendations or community service coordination, often require access to personal data. This raises significant concerns about privacy and data security. If sensitive information about an individual's religious beliefs or activities is mishandled or falls into the wrong hands, it could lead to misuse or exploitation [8-9]. Moreover, religious institutions' use of AI could inadvertently subject users to surveillance or profiling, particularly in regions where religious minorities face discrimination. Safeguarding data privacy and ensuring that AI platforms adhere to ethical standards is crucial for preventing harm and



Figure 8:
 Pic. 22: Sewell Setzer III
 (<https://nypost.com/2024/10/23/us-news/florida-boy-14-killed-himself-after-falling-in-love-with-game-of-thrones-a-i-chatbot-lawsuit/>)

maintaining trust in technology-enhanced religious practices.

TRAGEDIES HIGHLIGHT RISKS OF AI INTERACTIONS

A lawsuit against Character.ai alleges the platform's role in the tragic suicide of 14-year-old Sewell Setzer III in Florida. Filed by his mother, Megan Garcia, the suit claims an AI chatbot on the platform, posing as a therapist, engaged in manipulative conversations that fostered

suicidal thoughts. This incident has reignited concerns about AI safety, particularly in interactions with vulnerable users like minors.

Another alarming case from 2021 underscores these risks. Jaswant Singh Chail, a 21-year-old in the UK, attempted to assassinate Queen Elizabeth II as revenge for the Jallianwala Bagh massacre. He was heavily influenced by an AI chatbot named "Sarai," which shaped his distorted motives. Chail was apprehended at Windsor Castle with a crossbow and later sentenced to nine years in prison.

Both cases spotlight the ethical and safety challenges posed by AI. While Character.ai has implemented measures to protect users, these incidents reveal gaps in oversight. Experts emphasize the importance of collaboration with mental health professionals, transparent AI development, and awareness campaigns to ensure responsible AI evolution.

As AI increasingly integrates into daily life, platforms must prioritize safety, particularly for impressionable



Figure 9: From left to right in a clockwise direction.

- Pic. 23: An AI-generated picture depicting a young Sikh wearing yogic attire, providing the impression that Sikhs are followers of the Yogic cult.
- Pic. 24: Sikh Warrior, a digital artwork by Grinder Preet Kaur, uploaded 8th Dec. 2022. The warrior is shown as wearing a Metal headgear rather than a turban, which is not allowed as per the Sikh code of conduct. (<https://fineartamerica.com/featured/sikh-warrior-gurinder-preet-kaur.html>)
- Pic. 25: The founder of Sikhism, Guru Nanak, is portrayed as a Tilak Dhari (A Typical Hindu custom) (https://img.freepik.com/premium-photo/founder-sikhism-sikh-faith-spreading-its-foundational-principles-guru-nanak-dev-birth-ani_1027190-17.jpg)
- Pic. 26: A happy Sikh Family with a girl child wearing a turban. However, the child's clipped hair is visible on her forehead. (The picture was generated by AI when it was asked by the author to draw a picture of a happy Sikh family)
- Pic. 27: AI-generated artwork depicting a young Sikh wearing a rudraksha necklace. (Rudraksha wearing is a typical Hindu custom).



Sikh Man at Amrit Vela

Sikh Female Warriors Performing Gatka

Figure 10: From left to right in a clockwise direction.

Pic 28: An AI-generated picture showing a young Sikh wearing a turban, having moustaches but no beard. (This is contrary to the Sikh code of conduct)

Pic 29: An AI-generated picture claiming to depict Sikh Female Warriors performing Gatka shows women warriors with beards, tikkas (bindis), and long hair coming out of their turbans. (<https://miramuseai.net/record/112083-Sikh-Female-Warriors-Performing-Gatka-in-Historic-Punjab-Setting>)

Pic 30: AI-generated Picture depicting a Sikh Man at Amrit Vela. (This picture is in contrast with the picture of Amrit Vela depicted in Gurbani) (https://www.reddit.com/r/Sikh/comments/177twh0/ai_generated_image_of_sikh_man_at_amrit_vela/)

individuals. These tragedies serve as a sobering reminder that technological progress must always be accompanied by ethical responsibility and caution.

AI ART AND SIKHISM: THE NEGATIVE PORTRAYAL OF SIKHS

While AI art has the potential to showcase Sikh culture positively, it also poses risks of misrepresentation and distortion, leading to the negative portrayal of Sikhs. If not carefully guided, AI-generated art may perpetuate harmful stereotypes, mainly when drawing from limited or biased datasets. Suppose algorithms are trained on skewed or inaccurate portrayals of Sikhs, such as overly simplistic or exoticized images. In that case, this can reinforce misconceptions and reduce the rich diversity of Sikh identity to superficial and distorted visuals. The pictures 23-27 in Figure 9 on the previous page depict the Sikhs in an unsavory light, in contrast to Sikh doctrines.

Another concern is the risk of AI art being used to misappropriate or trivialize Sikh symbols and imagery. Sacred elements like the Kes (hair), Kirpan, the Turban, and the Sikh Khanda may be depicted out of context or without understanding their profound spiritual significance. This leads to their

commodification or disrespect. This could dilute their meaning and create an inaccurate portrayal of Sikh beliefs and practices.

Furthermore, AI-generated art lacks the cultural sensitivity and lived experience that human artists bring to their work. Without a deep understanding of Sikh traditions, AI may inadvertently produce content that is disrespectful or offensive to the community. Such portrayals could lead to misunderstandings, especially when AI art is shared widely across social media platforms. Some of the AI artwork that misrepresents Sikhi traditions and values, as available online, is reported by Pics. 28-30 in Figure 10.

The potential for misuse and misrepresentation in AI art highlights the importance of ensuring that technological tools are used responsibly and with cultural sensitivity. Collaboration between technologists and cultural experts is crucial to prevent AI's negative impact on the representation of Sikhism.

DEEPFAKES AS A SERIOUS THREAT FOR SIKHI PROMOTION

Deepfakes are images, videos, or audio edited or generated using AI tools. They may depict real or non-existent people. They are a type of synthetic media. The rapid evolution of deepfake technology has raised significant concerns for communities. Some of the

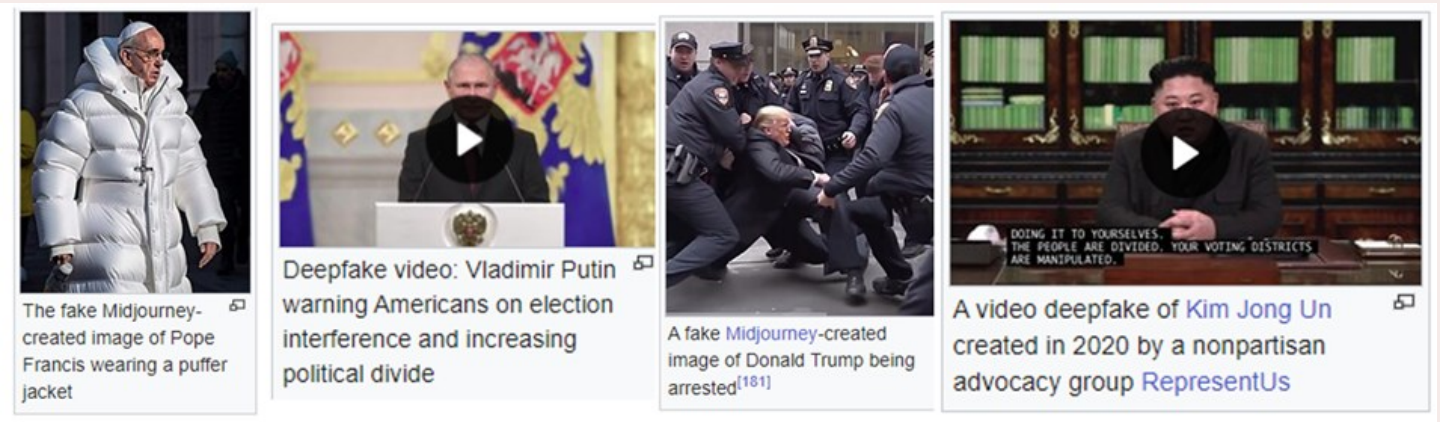


Figure 11: Deepfakes of some prominent world leaders.

Pic 31a: A fake Midjourney-created image of Pope Francis wearing a puffer jacket

(<https://www.cbsnews.com/news/pope-francis-puffer-jacket-fake-photos-deepfake-power-peril-of-ai/>)

Pic 31a: Deepfake video: Vladimir Putin warning Americans on election interference and increasing political divide

(https://uk.wikipedia.org/wiki/%D0%A4%D0%B0%D0%B9%D0%BB:Vladimir_Putin_warning_Americans_on_election_interference_and_increasing_political_divide.webm)

BB:Vladimir_Putin_warning_Americans_on_election_interference_and_increasing_political_divide.webm)

Pic 31a: A fake Midjourney-created image of Donald Trump being arrested

(<https://www.bbc.com/news/world-us-canada-65069316>)

Pic 31a: A video deepfake of Kim Jong Un created in 2020 by a nonpartisan advocacy group RepresentUs

(<https://act.represent.us/sign/deepfake-release>)

deepfakes of prominent world leaders, as available online, are shown by Pics. 31a-31d in Figure 11 as an example of the misuse of AI technology.

Deepfake technology poses a potential threat to the Sikh diaspora and the authentic promotion of Sikhi. Deepfakes, which use AI to create hyper-realistic fabricated videos or images, can manipulate Sikh personalities, symbols, and teachings, distorting their true essence and causing confusion. One of the primary threats is the misuse of Sikh leaders' identities. Videos or audio of respected Sikh figures can be manipulated to present false messages that conflict with core Sikh principles of truth, equality, and unity. Such content could mislead followers, creating divisions within the community and undermining trust in genuine leadership. Some of the deepfakes of prominent world leaders, as available online, are shown here as an example of the misuse of AI technology.

Another risk involves the distortion of Sikh practices or sacred elements, such as the Guru Granth Sahib or Khalsa symbols. Deepfake technology can be exploited to create disrespectful or misleading content, damaging the sanctity of these icons and hurting the sentiments of the Sikh community. Deepfakes also have the potential to undermine Sikhi's global outreach. Inaccurate portrayals

of Sikhism shared via deepfake-generated content can spread rapidly across digital platforms, misinforming audiences unfamiliar with the faith. This jeopardizes efforts to promote Sikhism's universal values of compassion and service. Raising awareness about deepfake technology and investing in tools to identify and debunk manipulated content is crucial to combat this threat. The Sikh community must advocate for ethical AI use and collaborate with tech platforms to preserve their cultural and spiritual heritage.

CONCLUSION

Artificial Intelligence presents many exciting opportunities for Sikhism, from enhancing access to sacred texts and preserving history to facilitating community service and fostering virtual Sangats. However, the use of AI in religious contexts must be approached with caution, ensuring that technological advancements do not distort the teachings or values of the faith. Sikhism, emphasizing service, equality, and community, provides a strong foundation for leveraging AI positively. Still, careful consideration must be given to the ethical implications and risks. By balancing innovation with mindfulness, AI can be harnessed to support and enrich Sikh practices in the modern world.

REFERENCES

- Dorobantu, M. (2019). *Recent advances in Artificial Intelligence (AI) and some of the issues in the theology & AI dialogue*. ESSSAT News and Reviews. 4-17.
- Geraci, R.M. (2008). Apocalyptic AI: Religion and the Promise of Artificial Intelligence. *Journal of the American Academy of Religion*. 76 (1). 138-166.
- Olaore, I. B., Nwosu, J. C, Oladipo, S. & Oyenuga, E. O. (2014). Artificial Intelligence (AI): The Christian Perspective, *Jour. of Information Engg. and Applications*. 4 (11). 96-100.
- Pinto.I. (2022). The Contemporary Possibilities and Challenges of Artificial Intelligence: A Theological Appraisal. *Indian Journal of Family Studies*. 69-80.
- Rendsburg, M. A. (2019). The Impact of Artificial Intelligence on Religion: Reconciling a New Relationship with God. *United Nations & Global Policy Studies*. Rutgers University, the State University of New Jersey. 1-26.
- Virk, Hardev Singh. (2023). Role of Sikh Scripture in the Modern Scientific Era of Artificial Intelligence. *Proc. IISR Symposium*. Pune.India.
- Singh, Devinder Pal. (2023). Sikhism and Artificial Intelligence - The Mutual Relevance, *Understanding Sikhism: The Research Journal*. Laval. QC, Canada. 25 (1). 153-157.
- Singh, Devinder Pal. (2023). Challenges of AI for Promoting Sikhism in the 21st Century (Guest Editorial). *The Sikh Review*, Kolkata, WB, India 71 (9). 6-8.
- Singh, Devinder Pal. (2023). Using Artificial Intelligence for Promoting Sikhism- Beneficial or Harmful. *Sikh Philosophy Network*. Chandigarh. India. <https://www.sikhphilosophy.net/threads/using-artificial-intelligence-for-promoting-sikhism-beneficial-or-harmful.53970/>
- Sri Guru Granth Sahib (SGGS)*, (1983). (Reprint), S.G.P.C., Amritsar, p 1-1430.
- Singh, S. *Guru Granth darpan*. <https://www.gurugranthdarpan.net/>
- Singh, D. P. (2023). Spirituality - A Gurbani Perspective. *The Sikh Review*, Kolkata, WB, India 71 (6): 10-14.
- Chahal, D. S. (2023). *Nanak and His Philosophy*, Institute for Understanding Sikhism. Laval, QC. Canada.
- Singh, D. P. (2014, July-Aug.). Relevance of Sri Guru Granth Sahib in 21st Century, *The Sikh Bulletin*, USA. 17 (7& 8). 18-22.
- Singh, Devinder Pal. (2023, June 23). Using AI to Enhance Knowledge and Understanding of Sikh Doctrines. *JeevanJach.com* Malaysia. <https://jeevanjach.com/using-ai-to-enhance-knowledge-and-understanding-of-sikh-doctrines/>
- Singh, Devinder Pal. (2024, Oct. 8). Invited Talk on *Harnessing of Artificial Intelligence for Sikhism- Opportunities and Risks*. Delivered to the PHX Global Gurmat Vichar Initiative Group, Phoenix, Arizona, USA. <https://1drv.ms/v/s!A!pw6JFNFuHirow5nuO7VdRAcjbYQ?e=c5J9Xd>
- Singh, Devinder Pal. (2024, Oct. 17). Navigating AI in Sikhism -A SWOT Analysis of Tech and Tradition. *Sikhnet.com*. USA. <https://www.sikhnet.com/news/navigating-ai-sikhism>
- Sidhu, K. (2023, October 8). Plotted Queen Elizabeth II's assassination with a crossbow: "To avenge Jallianwala Bagh massacre." https://kbssidhu.substack.com/p/plotting-to-kill-the-queen-with-crossbow?utm_source=substack&utm_medium=emailKhanna,
- Aditi. (2021, Dec. 27), Scotland Yard probes video showing Indian Sikh declaring to assassinate Queen to avenge Jallianwala Bagh massacre. *The Week Magazine, PTI*. <https://www.theweek.in/wire-updates/international/2021/12/27/fgn27-uk-queen-intruder-ld-video.html>
- Indian-origin man who attempted Queen Elizabeth II's assassination to avenge Jallianwala Bagh massacre says he was encouraged by his AI girlfriend - *Times of India*. (2023, July 7). <https://timesofindia.indiatimes.com/etimes/trending/indian-origin-man-who-attempted-queen-elizabeth-iis-assassination-to-avenge-jallianwala-bagh-massacre-says-he-was-encouraged-by-his-ai-girlfriend/articleshow/101569344.cms>

Note:

Some photos in the article, reported without web links, are Courtesy of Google.