ISSN (E): ***2959-0272***

ISSN (P): ***2710-0502***

Volume **6** Issue **2** Year **2025**

DOI: https://doi.org/10.59111/JPD.006.002.0144

Harnessing Ai Technology In Peacekeeping: Opportunities And Challenges

Ramsha Mir

MS Peace and Conflict Studies

Center for International Peace and Stability (CIPS),

National University of Sciences and Technology (NUST)

ramshamir16820@yahoo.com

Dr. Humaira Shafi

Assistant Professor

Center for International Peace and Stability (CIPS),

National University of Sciences and Technology (NUST)

humaira.shafi@cips.nust.edu.pk

Corresponding author e-mail: *humaira.shafi@cips.nust.edu.pk

This work is licensed under a Creative Commons Attribution 4.0 International License.

Abstract

Peacekeeping operations in the 21st century have evolved beyond traditional stability missions to encompass more complex objectives, including civilian protection, conflict resolution, and the management of asymmetric threats. In this shifted paradigm, artificial intelligence (AI) and virtual reality (VR) technologies present unique prospects to improve operational effectiveness and safety of peacekeeping personnel. While there is substantial research on military applications of AI, there remains a striking lack of studies exploring the integration of AI within the UN's peacekeeping mission. This paper aims to examine how AI and AI-enabled virtual reality (VR) simulations can enhance the preparedness and response of peacekeepers deployed in high-risk areas. This study is qualitative in nature and adopts a phenomenological approach. This research explores the experiences of peacekeepers who were deployed in countries such as Democracy Republic of Congo (DRC), South Sudan, and Mali, and Central African Republic (CAR). It also includes perspectives from experts involved in the peacekeeping training department. Findings indicate that AI technologies, particularly with respect to surveillance and intelligence gathering, have potential to enhance situational awareness and lessen the risks posed from emerging threats. Furthermore, AI-driven virtual reality (VR) training simulation creates opportunities for peacekeepers to exercise and enhance their skill of interacting with the community and assist in decision making. Nonetheless, the paper also highlights challenges and concerns, including ethical consideration, potential violations of core peacekeeping principles and limitations in the resources required to build AI-based infrastructure. The research demonstrates the potential of AI and VR to transform and modernize peacekeeping, but stressed the need for responsible implementation, recognizing the fundamental cause of peace and stability.

Keywords: Peacekeeping, Artificial Intelligence, Advanced Technology, Virtual Reality Simulations & Resources

Introduction

In an era defined by rapid technological advancement, the field of peacekeeping is also evolving and embracing innovation to meet the complex challenges of contemporary conflicts. With the advent of the 21st century the scope and nature of peacekeeping drastically changed. It has shifted from traditional peacekeeping that only focuses on ceasefire monitoring and stability to a multidimensional approach that addresses evolving challenges with the broader mandates of the missions. Technology plays a central role in the future trajectory of the peacekeeping operations. There is a need to ensure the safety and security of peacekeepers and operational effectiveness in the face of increasing asymmetrical threats such as IEDs, UAVs, mortar attacks, small and heavy arms and even cyber-attacks. This requires peacekeeping to adopt innovative technology that addresses dynamic challenges of the asymmetric threat environment. The recent developments of artificial intelligence (AI) cannot be disregarded in this regard. With rapid technological advancement, there is a substantial potential to reshape the landscape of peacekeeping operations.

The 2015 High-Level Independent Panel on Peace Operations (HIPPO) report highlighted the necessity for the peace operations to adapt to new challenges. It emphasizes the need for innovative approach and capacity building.[1] Similarly, the Action for Peacekeeping (A4P) initiative and its subsequent Action for Peacekeeping+ (A4P+) framework emphasize the commitment to strengthen peacekeeping through collaborative efforts and integration of new

[1] United Nations. *Report of the High-level Independent Panel on Peace Operations: Uniting Our Strengths for Peace—Politics, Partnership and People*. A/70/95–S/2015/446. New York: United Nations, (17 June 2015). https://undocs.org/A/70/95

technologies.[2] The 2025, 3rd UN Peacekeeping Ministerial Preparatory Meeting in Islamabad and UN Peacekeeping Ministerial Berlin Conference have further emphasized the critical role of technology in enhancing the safety and effectiveness of the peacekeepers.[3] [4]The importance of this research lies in its potential to contribute toward building more adaptive peacekeeping frameworks. It helps in better preparing peacekeepers to ensure civilian protection, strategic intelligence gathering and mission success.

There has been considerable research conducted on peacekeeping doctrine, conflict resolution and military applications of AI. However, there exists a noticeable research gap in exploring the specific utility of AI and AI enabled training tools within the UN peacekeeping context. The paper focuses on how AI can directly enhance operational effectiveness through intelligence gathering, surveillance and immersive training simulations. Most literature deals with the ethical implications of AI in the defense system while very few examine the real-time applications of AI in peacekeeping missions from the perspective of peacekeepers themselves. The aim of the paper is to investigate whether AI-driven surveillance and intelligence systems can reduce the risks associated with modern threats and how AI- based Virtual Reality (VR) training can improve peacekeepers skills particularly in engaging local communities.

[2] United Nations, *Action for Peacekeeping*, United Nations Peacekeeping, accessed on 25 August 2025, https://peacekeeping.un.org/en/action-peacekeeping

[3] United Nations. *Summary of the UN Peacekeeping Ministerial 2025 Preparatory Meeting: Towards a Safer and More Effective Peacekeeping—Use of Technology and Integrated Approach, co-hosted by the Islamic Republic of Pakistan and the Republic of Korea, Islamabad, 15–16 April 2025*. New York: United Nations, 2025. Accessed 25 August 2025.

[4] United Nations, *"UN Peacekeeping Ministerial in Berlin Brings New Commitments to Strengthen Peacekeeping Operations,"* United Nations Peacekeeping, (14 May 2025), accessed 25 August 2025, https://peacekeeping.un.org/en/un-peacekeeping-ministerial-berlin-brings-new-commitments-to-strengthen-peacekeeping-operations.

Conceptual Framework

The peacekeeping shift from traditional roles to more dynamic responsibilities require adapting new technologies with the evolving asymmetrical threats in conflict areas. As Karsten Friss (2010) argues, the line between peacekeeping and counter insurgency (COIN) has blurred in modern conflicts. In modern peacekeeping operations, the peacekeepers often find themselves using both kinetic force and non-kinetic methods.[5] In the volatile areas such as Democratic Republic of Congo (DRC), South Sudan and Central African Republic (CAR), these methods help them to maintain security, civilian protection and stability. The similarity between peacekeeping and COIN doctrine brings an opportunity to integrate Artificial Intelligence (AI) and AI based Virtual Reality (VR) simulations in the peace operations. The inclusion of such technology enhances situational awareness; decision making processes and also improves the operational effectiveness of peacekeepers.

According to Friss (2010), both peacekeeping and COIN share key principles: a focus on civilian protection, intelligence driven operations, host nation ownership and the limitations on the use of force, need for international coherence and emphasis on civilian solutions rather than military.[6] The shared principles inherent in both doctrines stand to benefit significantly from the integration of advanced technology. This provides basis for integrating artificial intelligence (AI) and Virtual Reality into peacekeeping training. AI technology has the potential to enhance VR simulations by modifying training scenarios in real time. The peacekeepers make decisions to the

[5] Karsten Friis, "Peacekeeping and Counter-insurgency – Two of a Kind?" *International Peacekeeping* 17, no. 1 (February 2010): 49–66, https://doi.org/10.1080/13533311003589199

[6] Friis, "Peacekeeping and Counter-insurgency," 50.

real time responses by the avatars. The COIN principles emphasize the need for non-kinetic methods where civilian centric approaches are the most important.[7] Through inclusion of such technology peacekeepers also focus on civilian centric approaches using non-kinetic means.

AI based VR simulations allow peacekeepers to engage in realistic yet controlled scenarios. It involves civilian protection, under pressure decision making and navigating complex socio-political and cultural dynamics. To understand the local population, psychological processes are required in peacekeeping. Virtual reality simulation training can immerse peacekeepers in culturally sensitive scenarios. This improves their interactions between both local populations and rebel groups. This also reduces the potential of civilian harm and strengthens operational effectiveness. In the regions where peacekeepers face insurgent threats, the non-kinetic strategies such as cultural engagement are very crucial.

Another important aspect of the integration of AI in peace missions is the increase in intelligence gathering. Peacekeepers can respond to intelligence, adjusting their strategies based on evolving threats and the movement of insurgents through AI driven surveillance. This resonates with the COIN doctrine which stresses the use of intelligence to understand the operational intricacies and make preemptive decisions to avoid excessive use of force. Thus, AI and AI based virtual reality (VR) provide a transformative tool to improve overall mission effectiveness.

[7] David Galula, *Counterinsurgency Warfare: Theory and Practice* (New York: Praeger, 1964).

Literature Review

Artificial Intelligence (AI) technologies can be integrated into peacekeeping missions to improve decision-making, situational awareness and counter complex conflict environments. AI tools which include machine learning, drones (UAVs) and data analytics platforms can help peacekeepers to predict and identify potential threats and enhance security measures. The author mentions that AI -powered drones can be employed for real-time surveillance which could provide peacekeepers with live imagery and thermal scans to provide potential threats.[8] Machine learning algorithms can be used in peacekeeping to act proactively rather than reactively. They can be used to analyze large datasets, satellite imagery and social media feeds to detect early warning signs of the conflict.[9] Moreover, a situational awareness platform known as UNITE Aware has been developed to integrate AI into the operational framework for peacekeeping operations.[10] This helps on ground peacekeepers to have better coordination and quicker decision making. Scholars have mentioned that drones that are equipped with AI can autonomously monitor conflict zones which can provide real time surveillance data to command centers.[11] This capability not only ensures the safety of the peacekeepers by the asymmetrical threats like rebel groups and IEDs but also prepares peacekeepers to handle unforeseen situations.

[8] Swaim Prakash Singh, "Contemporary Technology in Peacekeeping Operations," *Journal of Defence Studies* 16, no. 3 (July–September 2022): 59.

[9] Munkh-Orgil Tuvdendarjaa, "Artificial Intelligence in Contemporary Peacekeeping Operations," *Security Nexus Perspective* (Daniel K. Inouye Asia-Pacific Center for Security Studies, May 2025), 5.

[10] Singh, "Contemporary Technology in Peacekeeping," 62

[11] Nwankwo Constance Obiuto, Igberaese Clinton Festus-Ikhuoria, Oladiran Kayode Olajiga, and Riliwan Adekola Adebayo, "Reviewing the Role of AI in Drone Technology and Applications," *Computer Science & IT Research Journal* 5, no. 4 (April 2024): 745, https://doi.org/10.51594/csitrj.v5i4.1019

Nwankwo Constance Obiuto, Igberaese Clinton Festus-Ikhuoria, Oladiran Kayode Olajiga, and Riliwan Adekola Adebayo, "Reviewing the Role of AI in Drone Technology and Applications," *Computer Science & IT Research Journal* 5, no. 4 (April 2024): 745, https://doi.org/10.51594/csitrj.v5i4.1019

However, there are several challenges despite being a promising role in integration of AI into peacekeeping operations. The first is the cost barrier for developing the infrastructure. In peacekeeping the advanced AI systems required are expensive to implement, especially in the regions which are already limited in resources and infrastructure.[12] The scholarly work also states that the integration of AI into a peacekeeping mission requires substantial investments in both hardware and training for peacekeepers.[13] Another challenge that Négyesi (2024) states is the lack of trust in AI systems, particularly when it comes to autonomous decision making and the potential loss of human oversight.[14] He also pointed out that the use of AI technology used by different nations and peacekeeping organizations can be a challenge. Peacekeeping missions involve personnel and systems from multiple countries with different technological standards which make it harder to adapt. Furthermore, due to the firm principles of peacekeeping operations, there are some ethical concerns around the use of AI. AI driven surveillance, target strikes and the potential for bias in AI algorithms remain significant obstacles.[15]

Nonetheless, there is a huge potential in virtual reality (VR) to transform military and peacekeeping training by offering computer generated environments that replicate real world situations. The authors emphasize that VR provides military personnel realistic combat scenarios without the risks associated with live training.[16] This has made it an invaluable tool for preparing

[12] Ullah, Muhammad Usman, Sahar Saleem, and Amina Munir. "Artificial Intelligence in Conflict Prediction and Prevention: Opportunities and Risks for International Peace and Security." *Global Social Sciences Review* X, no. I (Winter 2025): 193-194. https://doi.org/10.31703/gssr.2025(X-I).17

[13] Singh, "Contemporary Technology in Peacekeeping," 64-65

[14] Imre Négyesi, "Possibilities of Using Artificial Intelligence in EU and UN Peacekeeping Activities," *Land Forces Academy Review* XXIX, no. 1 (2024): 14, https://doi.org/10.2478/raft-2024-0002

[15] Ullah et al., "Artificial Intelligence in Conflict Prediction," 195

[16] Dr. Arjun B.C., and Sanjay K.R., "Enhancing Military Training through VR Applications," *International Scientific Journal of Engineering and Management* 3, no. 5 (May 2024): 3, https://doi.org/10.55041/ISJEM01739.

armed forces for modern warfare. The scholar also mentions the VR capabilities in enhancing the engagement and readiness of military personnel by developing highly detailed and interactive training environments.[17] This allows personnel to have a safe space and can practice repeatedly in a variety of complex scenarios. Another work also provided evidence that VR training can improve personnel reaction time, accuracy and stress management.[18] Additionally, VR's ability to simulate diverse environments prepares personnel for a wide range of combat conditions that might be difficult or dangerous to recreate in traditional training methods.[19]

Although there is limited research on VR's use in peacekeeping, some institutes and organizations are experimenting with its application. For example, Pakistan's Peacekeeping Training Department has started using virtual reality with AI to stimulate, disarmament and conflict resolution scenarios. As in another paper authors mentioned that, "VR is being integrated into peacekeeping training to provide peacekeepers with the tools needed to navigate volatile and conflict-ridden environments."[20] However, more studies are needed to assess the effectiveness of these simulations for peacekeepers as literature on VR in peacekeeping is still in its infancy. This also highlighted the potential benefits of VR for peacekeeping forces by enabling them to train in

[17]Prathamesh M. Hiremath and Prof. Saravanan C., "A Comprehensive Study of Virtual Reality (VR) in Defence Combat Training," *International Scientific Journal of Engineering and Management* 3, no. 5 (May 2024): 2, https://doi.org/10.55041/ISJEM01739

[18] Dmytro Fedasyuk and Vitalii Vorobiov, "Virtual Reality Training Simulator for Weapons Shooting," *IEEE Transactions on Education* 58, no. 3 (2023): 60, https://doi.org/10.1109/IEEETED.2023.3215578

[19] Hiremath and C., "A Comprehensive Study of VR," 4.

[20] Wiederhold, Brenda K. "The Future of Peacekeeping: Navigating Ethical AI Deployment in Conflict Zones." *Cyberpsychology, Behavior, and Social Networking* 28, no. 7 (2025): 451–453. https://doi.org/10.1089/cyber.2024.0486

complex social and political environments.[21] This has the potential to improve their response to challenges such as asymmetric warfare and humanitarian crisis.

Peacekeepers today must adapt to the changing nontraditional and asymmetrical threats in the conflict-effective regions. Tuvdendarjaa also mentioned that peacekeepers now must recognize and respond to a variety of threats such as improvised explosives devices (IEDs), cyber-attacks, guerrilla warfare tactics.[22] The training to deal with these challenges requires innovative approaches such as advanced technologies like AI, data analytics and real time surveillance to improve situational awareness. Despite advancements in peacekeeping several significant gaps remain in current peacekeeper training. Fedasyuk and Vorobiov also note that VR has not been widely integrated into peacekeeping training systems where on the other hand military forces have started to adopt VR based training simulators to decision making and shooting skills in realistic virtual settings.[23] The authors emphasize that VR is a promising tool to address the lack of training environments that could simulate high risk peacekeeping scenarios. Peacekeepers also often lack the training necessary to respond to complex social dynamics in conflict zones which require advanced negotiation skills and the ability to handle civilian military interactions.[24]

In conclusion, VR and AI could play an important role in closing the gaps in peacekeeper training by providing immersive and realistic training environments. They can help address training deficiencies and improve preparation for modern threats. It could also enable peacekeepers

[21] Lav Soni and Amanpreet Kaur, "AR and VR in Military Combat: Enhancing Soldier Performance and Safety," *Proceedings of the International Conference on Sustainable Computing and Smart Systems* (ICSCSS 2023): 1207, https://doi.org/10.1109/ICSCSS5796765

[22] Tuvdendarjaa, "Artificial Intelligence in Contemporary Peacekeeping," 6

[23] Fedasyuk and Vorobiov, "Virtual Reality Training Simulator," 60

[24] Soni and Kaur, "AR and VR in Military Combat," 1210.

to better handle complex and evolving situations in conflict zones. These also ensure that peacekeepers are equipped with the necessary skills to manage asymmetrical, cyber threats and peace enforcement in contemporary missions.

Methodology

This is a qualitative study based on phenomenological research. It aims to understand how AI technology and AI driven Virtual Reality (VR) simulations could transform peacekeeping operations. Special focuses were given to countries facing asymmetric threats by the insurgents and rebel groups, The research focuses on understanding the experiences of UN peacekeepers who have participated in VR -based training and the influence of new technologies in their preparedness, decision making and overall effectiveness in high-risk mission areas.

For the primary data interviews and group discussions with peacekeepers were conducted with those who have served or currently deployed in areas such as the Democratic Republic of Congo, South Sudan, Central African Republic (CAR) and Mali. Additionally, research involved consultation with peacekeeping training experts to discuss the potential application of AI in peacekeeping and the role of AI based VR simulations in enhancing the training. The field work assistance was given by the Peacekeeping Training Department of the Center for International Peace and Stability (National University of Sciences and Technology). Moreover, interviews were also gathered from experts in academia and the Ministry of Foreign Affairs to explore future prospects of integrating AI into peacekeeping operations.

Journal articles, issue briefs and UN reports are used as secondary data. The articles mostly discussed the integration of AI in military operations. Relatively less sources were available on the role of AI in peacekeeping operations. This provides a context for understanding the potential

opportunity of the role of AI and impact of these technologies in peacekeeping operations. This paper further contributes to the emerging discourse on the intersection of AI and peacekeeping.

Findings

The main question that this research aims to explore is whether the integration of Artificial Intelligence (AI) and AI-based training can improve the operational effectiveness of the peacekeeping mission. The answer to this question determines whether AI-driven technologies and virtual reality (VR) systems can enhance the readiness of peacekeepers to respond to asymmetrical threats as well as improve their decision-making capabilities. The findings determine the challenges and opportunities of integration of Artificial Intelligence, and the potential impact of AI based training on mission. The paper is crucial in understanding the importance of such technology in shaping the future of UN peace operations. A detailed thematic analysis of the data gathered both interviews and focus group discussion has yielded the following results:

Strengthening Intelligence Gathering Capabilities

There has been an increase in the threats faced by peacekeepers in the past decade. The nature of threats has evolved significantly where peacekeepers are now exposed to increasingly sophisticated and lethal risks. These include threats such as mines, Improvised Explosive Devices (IEDs), mortar attacks and rebels using both heavy and small arms. Such threats have also led to the growing debate regarding the safety and security of UN peacekeepers and operational effectiveness in high-risk regions. The United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) is one of the deadliest missions for peacekeepers. More than 50%

of its peacekeeper fatalities have been attributed to IEDs.[25] These hidden explosive devices often go unnoticed until activated making it nearly impossible for peacekeepers to prepare or avoid them. Another incident is the attack on Aérospatiale SA 330 Puma helicopter, in Democratic Republic of Congo (DRC) in 2022 tragically killed eight peacekeepers which include six Pakistani, one Russian and one Serbian peacekeepers.[26] One respondent from MONUSCO mission stated that, "Puma helicopter incident occurred due to the lack of intelligence. While everything else, including logistics is sufficient, there is a need for more intelligence information". These fatal occurrences show that despite the escalation of these threats, peacekeeping missions often suffer from insufficient intelligence capabilities. In peace missions, the lack of intelligence gathering and surveillance infrastructure has made it difficult for peacekeepers to identify and counter threats before they result in casualties. There is a clear need for better intelligence to support early warning systems, improve situational awareness and allow proactive responses to emerging threats. Human intelligence remains the primary source of information in peacekeeping operations. One respondent said, "……peacekeepers mostly rely on basic methods of surveillance such as patrolling and observation posts, which often fail to provide the depth and scope of intelligence needed in high-risk areas. To address the lack of intelligence gathering there has been a scope of AI driven surveillance systems in peacekeeping. It can analyze huge amounts of data from multiple sources, such as drones, satellite imagery and ground sensors to provide insights into potential risk. It has the ability to identify patterns, detect anomalies such as subtle signs of IEDs and Mines by analyzing ground disturbances or heat signatures. This enables peacekeepers to identify before it

[25] Daniel De Simone, "Mali: UN Peacekeeping Mission Ends After Decade," *BBC News*, (December 31, 2023), https://www.bbc.com/news/world-africa-67851525

[26] France24, "UN Helicopter Crashes in DR Congo, Killing Eight Peacekeepers Aboard," *France24*, (March 29, 2022), https://www.france24.com/en/africa/20220329-un-helicopter-with-eight-aboard-crashes-in-democratic-republic-of-congo

explodes. The use of AI in intelligence gathering could be a critical advancement in peacekeeping technology. It significantly reduces risks, improves operational efficiency and empowers peacekeepers to effectively protect themselves and the community they serve.

Impact on Peacekeepers' Skills and Preparedness

The modern peacekeeping operations necessitate peacekeepers to develop a broader range of skills which include engagement with diverse local stakeholders. For the mission success, effective communication, negotiation and trust building with local population, rebel groups, child soldiers and non-governmental organizations is indispensable. There has been virtual reality simulation in military setups that helps bridge this gap. However, in the Pakistan Department of Peacekeeping Training at CIPS, NUST introduced the first fully AI-driven Virtual Reality (VR) training program for peacekeepers. The innovative Virtual Reality training program aims to immerse peacekeepers in dynamic and interactive environments. This simulates various situations they may encounter during their missions. These scenarios are designed to enhance the interpersonal skills of the peacekeepers. These scenarios are designed to enhance the interpersonal skills of the peacekeepers. These skills are critical while engaging with the community members. One respondent stated that, …… but the aspect of avatars such as characters like rebel leader, a village elder or a child soldier who are rarely encountered in daily life but often faced by peacekeepers in dangerous locations. It can be created in virtual reality. These avatars are self-evolving and self-modifying". Moreover, the virtual reality (VR) simulations are not just limited to managing conflicts. It can provide assistance to peacekeepers for the broader peace building process which includes engaging with the local and international NGOs. It helps in understanding their roles in providing humanitarian aid. Another respondent said, "It's a great way for peacekeepers to enhance their negotiation skills, gender diversity training, persuasion abilities and

overall capacity for peacebuilding in the community. Virtual reality (VR) ensures the needs of civilians and other local actors. It not only prepares peacekeepers for immediate threats but is also equipped to develop sustainable peace by engaging the community in a complex environment.

Resource Constraints and Budget Cuts

There has been a significant budget cut in peacekeeping in the past few years. The current allocation expenses are approximately 5.6 billion dollars, which represents only 0.5 percent of global military spending.[27] The 2.7 trillion-dollar global military expenditure highlights the stark contrast between the priorities of the world's military powers. One of the largest donor countries, the United States, under Trump not only reduced its funding but also proposed eliminating its funding for the peacekeeping missions. This decision has led due to the inefficiencies in operations in Mali, Lebanon and Democratic Republic of Congo. The move could destabilize the international system as 27 percent of the peacekeeping budget depends on the US contribution.[28] The lack of budget eventually reduces the size of personnel in the mission area and compromises the infrastructure. One respondent from the Ministry of Foreign Affairs stated that, "……. If they don't have the resources, they won't be able to implement the mandates. In that case, we are essentially setting our peacekeepers up for failure, and that is something we will not allow". The cut in resources for UN peacekeeping operations has a direct and profound impact on the development and integration of AI infrastructure. For artificial intelligence to fully integrate into the UN peacekeeping system, there is a need for the development of a whole new AI based infrastructure. There must be replicas of Pakistan's AI driven virtual reality simulation training in

[27] Daniel Johnson, "As Funding Cuts Bite, UN Chief Announces New Dawn for Peacekeeping," *United Nations News*, (May 13, 2025), https://news.un.org/en/story/2025/05/1163171

[28] United Nations Peacekeeping, "How we are funded," accessed August 26, 2025, https://peacekeeping.un.org/en/how-we-are-funded

all the peacekeeping training infrastructure. Moreover, additional resources are required to further study the inclusion of AI driven surveillance to monitor threats which could eventually be beneficial for both the safety of peacekeepers and the community. Respondents from the Ministry of Foreign Affairs stated that, "We fully understand the value of these innovative technologies and strongly advocate for their use. However, it ultimately comes down to available resources."

Principle Restrictions

In peacekeeping missions, there are three core principles that guide the mission mandate: impartiality, consent of the parties and non-use of force (except in self-defense).[29] These principles ensure that peacekeeping operations sustain neutrality, respect the sovereignty of the host nations and avoid the unwanted escalation of violence. The integration of autonomous decision making and AI technologies in peacekeeping could face a significant challenge due to these guiding principles of the mission. The areas where human judgement and discretion is required, the use of AI and autonomous systems can undermine these principles. One major concern regarding the use of AI in peacekeeping is the lack of impartiality. A veteran officer discussed that, "at the moment, AI is making significant inroads in every field. It is almost impossible for a modern system, especially one based on knowledge or information, to function without AI. The only limitation, however, lies in the autonomous decision-making system. To date, there is no known instance where an autonomous decision-making system has been fully implemented. It is due to the legal implications and potential dangers it poses to humanity". The inability of artificial intelligence (AI) to fully comprehend the intricacies and distinctions of human interactions may lead to bias. In other words, artificial intelligence cannot understand the emotional and cultural dimensions of

[29] United Nations Peacekeeping, "Principles of Peacekeeping," accessed August 26, 2025, https://peacekeeping.un.org/en/principles-of-peacekeeping

the situation which undermines the peacekeeping efforts. The consent of parties is another significant barrier to fully integrate AI technology in peacekeeping.The consent of parties is another significant barrier to fully integrate AI technology in peacekeeping. The principle of consent stipulates that peacekeepers must obtain the approval of both the host nations and conflicting parties for their deployment and operations in the mission area. The use of AI technology, especially in surveillance drones and autonomous decision-making systems, has potential to raise concerns regarding sovereignty and privacy. A respondent said, "…….it depends on how we want to take peacekeeping forward. AI is one of those tools in which we always advocate to take it slow, to understand what the implications would be. Once we are able to understand the implications fully, and if we think we are able to manage the negative impacts, then yes. But we should not rush into it. Because if we rush into it, then we can encounter difficulties and complications." Lastly, the deployment of AI based autonomous systems for security purposes presents a serious risk to the violation of principle of non-use of force (except for self-defense). AI systems unintentionally escalate situations, especially those designed to make autonomous decisions. Autonomous systems could interpret a situation and make decisions in ways that peacekeepers would not. One peacekeeper from MONUSCO said that "there is no need for autonomous weapons or decision-making systems. We are deployed to establish and maintain peace. We are not at war with them; we are assisting them to resolve and rebuild." Furthermore, unlike peacekeepers, the AI system lacks emotional intelligence and contextual understanding. This makes them less suited for handling situations that require empathy, cultural understanding and negotiation.

Conclusion

Conclusively, the research revealed the potential opportunities of artificial intelligence and virtual reality simulation training in modern peacekeeping operations. The evidence from both primary and secondary data demonstrates the probability of advancing in intelligence gathering through AI-based surveillance. With the improvement in intelligence gathering, peacekeepers can better distinguish and mitigate threats in the extremely volatile areas. Other than that, virtual reality (VR) with artificial intelligence has the capability to create complicated and culturally delicate scenarios for the peacekeepers. The virtual reality (VR) simulation training can enhance the communication skills of the peacekeepers and prepare them for real world operations.These advancements in technology in the peacekeeping operations are crucial for improving the operational effectiveness and safety of UN peacekeeping personnel in rising asymmetrical mission areas.

These findings show a thoughtful contribution in the field of peacekeeping. The vast amount of data could be processed immediately with the help of artificial intelligence (AI). These early warnings and threat detection with the help of artificial intelligence (AI) offer a significant benefit for the vindication of the threats like IEDs, mines and small drones used by rebels. Moreover, virtual reality (VR) simulations can prepare them in advance to understand the social and political dynamics of the mission area. This equips them to engage with the local stakeholders of the host country. For practitioners in this field, this paper provides understanding for practical integration of AI technologies to improve operational preparedness. It also underscores limitations of traditional training methods and the importance of adapting advanced technologies in peacekeeping training.

One of the key contributions of this paper is exploration of the role of AI in peacekeeping. It is a relatively under-researched area. This work is one of the first to examine how AI and AI

enabled VR simulations can enhance peacekeepers' decision-making capabilities in high-risk missions. The novelty lies in the practical application of these technologies such as VR simulation training at Pakistan's Department of Peacekeeping Training. This presents a novel opportunity that could significantly influence the development of future training framework and operational strategies.

However, this research paper does have limitations despite these promising findings. The sample size was relatively small, limited to peacekeepers deployed in specific countries. This means the result cannot be generalized to all peacekeeping missions. Another limitation is that due to the sensitive nature of their work, a limited number of interviews were conducted. Nevertheless, these limitations do not diminish the importance of study. It provides valuable insights into the intersection of technology into peacekeeping. It also suggests avenues for further research and development. Future research could explore the scalability of AI and VR systems in different peacekeeping missions and training centers. As AI continues to evolve, it is crucial to monitor its integration into peacekeeping missions to ensure that these technologies enhance the fundamental goals of peacekeeping, which is peace and stability rather than undermining it.