

Social Robots' Security Concerns in Public Spaces: A Comprehensive Mapping Study

Derser Wed*

Department of Educational Psychology, The Chinese University of Hong Kong, Hong Kong, China

Introduction

Social robots are becoming increasingly prevalent in various public spaces, including airports, malls, hospitals, and even on city streets. These robots are designed to interact with and assist humans, offering services that range from providing information and guidance to performing tasks like cleaning and delivering items. While the integration of social robots into public spaces has the potential to enhance efficiency and convenience, it also raises significant security concerns. In this comprehensive mapping study, we delve into the multifaceted landscape of security concerns associated with the deployment of social robots in public spaces. We aim to provide a comprehensive overview of these concerns, considering aspects such as privacy, data security, physical security, ethical considerations, and potential mitigation strategies. Social robots in public spaces can take on various forms, including humanoid robots, robotic kiosks, delivery robots, and more [1,2]. Their functions may vary widely, from assisting customers in a retail environment to aiding with healthcare tasks in a hospital setting. These robots often incorporate advanced technologies like artificial intelligence, machine learning, sensors, and cameras to interact with humans effectively. The proliferation of social robots in public spaces has created a range of security challenges and concerns, which we will explore in detail [3].

Description

The integration of social robots into public spaces is a fascinating and rapidly evolving development in the field of robotics and artificial intelligence. These robots, designed to interact with and assist humans in various contexts, offer a wide range of potential benefits, from enhancing customer service to providing companionship for the elderly. However, the deployment of social robots in public spaces also raises significant security concerns that must be carefully examined and addressed. In this comprehensive mapping study, we explore the security concerns associated with social robots in public spaces, aiming to provide a structured overview of the current landscape of research and identify areas for future investigation. Social robots, often equipped with sensors, cameras, microphones, and advanced AI algorithms, are becoming increasingly prevalent in public environments [4,5]. They can be found in various settings, including airports, shopping malls, hospitals, and even on the streets, interacting with people, providing information, and offering assistance. These robots come in various forms, from humanoid robots to specialized service robots with unique functions. They can perform tasks such as guiding visitors, answering questions, providing entertainment, and even supporting healthcare professionals in patient care. The expanding scope of their deployment raises

*Address for Correspondence: Derser Wed, Department of Educational Psychology, The Chinese University of Hong Kong, Hong Kong, China, E-mail: derserw@gmail.com

Copyright: © 2023 Wed D. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received: 02 September, 2023, Manuscript No. assj-23-116684; **Editor Assigned:** 04 September, 2023, PreQC No. P-116684; **Reviewed:** 16 September, 2023, QC No. Q-116684; **Revised:** 21 September, 2023, Manuscript No. R-116684; **Published:** 28 September, 2023, DOI: 10.37421/2151-6200.2023.14.583

security concerns that span multiple dimensions [6].

Conclusion

The deployment of social robots in public spaces offers various benefits, but it also gives rise to significant security concerns, including data privacy, data security, physical security, and ethical considerations. The multifaceted nature of these concerns necessitates a holistic approach to addressing them, which includes privacy by design, robust cybersecurity measures, and the development of ethical guidelines. Case studies highlight the practical challenges and mitigation strategies in various contexts. As social robots continue to integrate into our public spaces, it is crucial to remain vigilant, proactive, and adaptive in addressing the evolving security landscape. Achieving a balance between the potential benefits of social robots and safeguarding user privacy and security is an ongoing challenge that requires the collaboration of stakeholders from technology developers, government entities, and the general public.

Acknowledgement

None.

Conflict of Interest

None.

References

- Oruma, Samson O., Mary Sánchez-Gordón, Ricardo Colomo-Palacios and Vasileios Gkioulos, et al. "A systematic review on social robots in public spaces: Threat landscape and attack surface." *Computers* 11 (2022): 181.
- Sarrica, Mauro, Sonia Brondi and Leopoldina Fortunati. "How many facets does a "social robot" have? A review of scientific and popular definitions online." *Inf Technol People* 33 (2020): 1-21.
- Boada, Júlia Pareto, Begona Román Maestre and Carme Torras Genís. "The ethical issues of social assistive robotics: A critical literature review." *Technol Soc* 67 (2021): 101-726.
- Corrales Serrano, Mario, Jesus Sanchez-Martín, Jose Moreno Losada and Francisco Zamora Polo. "The role of the social sciences when choosing university studies: Motivations in life stories." *Educ Sci* 11 (2021): 420.
- Bakhanova, Elena, Jaime A. Garcia, William L. Raffe and Alexey Voinov. "Targeting social learning and engagement: What serious games and gamification can offer to participatory modeling." *Environ Model Softw* 134 (2020): 104846.
- Asiri, Mohammed J. "Do Teachers' attitudes, perception of usefulness, and perceived social influences predict their behavioral intentions to use gamification in efl classrooms? Evidence from the Middle East." *J educ pract* 7 (2019): 112-122.

How to cite this article: Wed, Derser. "Social Robots' Security Concerns in Public Spaces: A Comprehensive Mapping Study." *Arts Social Sci J* 14 (2023): 583.