

A Comprehensive Review of Robotic Escort Services: Enhancing Safety and Security for Women in Public Spaces

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Abstract

In an era marked by technological advancements and a heightened focus on gender equality, the safety of women in public spaces remains a significant global concern. In Sri Lanka, a heartbreaking 90% of women endure the painful experience of sexual harassment during their train and bus commutes, and it's disheartening to learn that merely 4% have found the strength to seek legal redress. Robotic escort services, a novel approach to personal security, offer the potential to address limitations and provide a more comprehensive and proactive safety solution for women. This paper explores the transformative potential of robotic escort services, exploring their potential impact on safety and security, limitations of existing solutions such as mobile applications and wearable technology, and utilizing Robotics, AI, and IoT to revolutionize women's protection. This study systematically addresses key research questions, investigating the effectiveness of these services, analysing the limitations of existing solutions, and highlighting the challenges and opportunities. Objectives include a comprehensive exploration of robotic escort services, understanding existing safety measures, and identifying challenges and opportunities. While the paper emphasizes the need for continued efforts to harness technology for women's safety, it concludes by highlighting the transformative potential of robotic escort services. The final results demonstrate a significant improvement in safety perceptions and incidents, affirming the efficacy of these innovative solutions in enhancing safety and security for women in public spaces.

Keywords: *Robotics, Women's safety, Robotic escort services, Public spaces, Emerging technologies, Technological solutions.*