

Chapter 14

Advancements in Examination Systems: IP-Based Robo Invigilator Technique

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ABSTRACT

This research delves into the operational dynamics of invigilator robots, particularly in exam halls. Traditionally, human invigilators have overseen exams to prevent cheating and maintain fairness. However, the emergence of invigilator robots equipped with advanced features has revolutionized this process. These robots utilize cameras and sensors to monitor exam rooms in real time, detecting any suspicious behavior such as accessing prohibited materials or communicating with others. Employing facial recognition and identity verification, they ensure only authorized individuals are present for the exam. Furthermore, they analyze behavioral patterns to identify potential instances of fraud, distinguishing between normal actions and those indicating unauthorized assistance. Their ability to observe consistently without distraction or fatigue ensures thorough monitoring throughout the test. In case of

DOI: 10.4018/979-8-3693-4365-4.ch014

anomalies, they promptly alert human administrators. Additionally, these robots generate comprehensive reports and visual evidence of any irregular activities.

1. INTRODUCTION

The increase in the number of research articles published over various fields has made it difficult for researchers, academics and reviewers to find relevant works. With so many to sift through, it makes sense that we would need better ways of reviewing and evaluating this information. Though traditional peer review processes are necessary, the volume of manuscript submissions may outpace a journal's ability to review them in full — leading to magazine publication delays and biases or oversights during the assessment process. Robots and automation in the review process. The above-mentioned challenges are an area that robotics and automation have been working on even now where they can make a lot of difference. AI, NLP, and Analytics in Robotics Further Support Streamlining of Peer Review. The reviewing process may improve efficiency, objectivity, and quality in this process—from pre-sorting reviews to content analysis in depth-by using robotics through AI, NLP, and analytics. Based on synthesizing available literature and case studies and even emerging trends in scholarly publishing, this review is aimed at an integrated understanding of the role that robotics plays in assessing review papers.

It will discuss a range of applications, challenges, and implications of introducing robotics into the reviewing process, such as potential benefits it can have in relation to workload reduction on reviewers, improvement in the assessment of paper manuscript quality, and accelerating the dissemination of scientific knowledge. Through structured review of the current state-of-the-art, the objective of this review is thus to shed light onto developments in assessment within robotics-enabled reviews of paper and define potential avenues for future research and development.

More importantly, it will stimulate critical discussion on ethical matters, prejudices, and limitations concerning robotic peer review and will be consistent with academic integrity. In summary, the review offers timely insight into this revolutionizing robotics-scholarly publishing interface, demonstrating how automation can revolutionize the reviewing processes to project future scholarly discourse. The purpose is to inform stakeholders-on equally researchers, publishers, and policymakers-of the transformative power of technology for advancing the integrity and efficiency of peer review. Following which the work is presented in the following manner. Section 2 presents the past related works carried out in this domain and gap analysis of the review work is describes in section 3. Section 4 represents the technology behind the design followed by the operation of the robot during examination process in section 5. proposed methodology which outlines the preprocessing, feature