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Leveraging On Machine Learning Strategies to Mitigate External Webcam-Based Cheating in AI Proctoring Systems: (Using A Novel Dataset)

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ABSTRACT

The advancement in information Technology and the Covid 19 pandemic has led to the wide spread adoption of AI Proctored examination systems in educational settings, in view of this, protecting the integrity of online assessments has been facing new challenges. The development of reliable methods for detecting electronic cheating, notably the use of diversion of Webcam during examinations, has become essential with the rise of emerging cheating techniques. In this research, a thorough methodology for detecting Webcam Diversion usage in an AI-proctored test system is presented, in order to uncover suspicious activities connected with the use of Webcam Diversion to fool the AI Proctoring systems. Artifacts created by USB devices attachment to a system, are persistent and remain even after the system was turned off, are evidence that can be useful in forensic analysis on suspect systems. In this paper, we demonstrate how to use the Windows Event Viewer to extract relevant Dataset. Therefore, we present, extensive experiments using cutting-edge machine learning techniques with curated datasets from windows event viewer and Device manager used to show the efficiency of the suggested model for detecting when Webcam Diversion is deployed for cheating during AI Proctoring exams. The findings indicate accurate electronic cheating detection that would improve academic evaluation integrity of AI proctoring systems.

Keywords: Academic evaluation, Webcam Diversion, Integrity of e-Assessment, AI Proctored Examination, Electronic Cheating