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Crime Investigation Using Intelligent Suspect Tracing System

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Abstract: *The rapid increase in crime rates and the growing availability of digital surveillance data have created a strong demand for intelligent and automated investigation systems. Conventional crime investigation techniques depend largely on manual examination, eyewitness testimony, and fragmented data sources, which often result in delayed suspect identification and increased chances of error. This research presents an intelligent suspect tracing system that integrates image processing, facial recognition, and machine learning techniques to enhance the efficiency and accuracy of criminal investigations. The proposed system processes surveillance images and videos, extracts discriminative facial features, and compares them with a centralized criminal database to identify potential suspects. Experimental evaluation demonstrates that the system significantly reduces investigation time while maintaining high identification accuracy. The results indicate that the proposed approach provides a reliable and scalable solution for modern digital crime investigation.*

Keywords: digital surveillance

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