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A Review on the Application of Artificial Intelligence and Automation in Digital Forensics

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As a branch of forensic science, Digital Forensics is concerned with identifying, acquiring, processing, analysing, and reporting on digital data. For law enforcement investigators, Digital Forensics support is crucial since electronic evidence is present in almost all criminal activities. An array of electronic evidence can be gathered from a variety of sources, including computers, smartphones, remote storage, unmanned aerial systems, and shipborne equipment. The main objective in Digital Forensic is to extract data from electronic evidence, process it into actionable intelligence and present the findings for prosecution. The success, efficiency, and efficacy of a typical forensic inquiry are significantly influenced by the knowledge and prior experience of the investigator or any security agent. The outcomes of a digital investigation will be more effective and efficient if the power of intelligence in the available computer resources is utilized. In modern computer science, Artificial Intelligence (AI) is a well-established field that can often provide a means of solving computationally complex or large problems in a realistic timeframe. The influence of AI on several fields in modern society and its achievements throughout time suggest that it can help with a variety of challenging Digital Forensics investigative issues. This review outlines various methods of evaluating, optimizing and standardizing applications of artificial intelligence and Automation models used in digital forensics.

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