

EMERGING TECHNOLOGIES IN FORENSIC SCIENCE

Muhammad Akram Choohan

Editor-in-chief

choohansb@gmail.com, editor.fihsb@ammanif.com

Since new trends and technology are emerging daily, the discipline of forensic science is seen as futuristic. Here, we've covered all the information on how different technologies are changing the face of forensic science.

Technological developments in forensic science are always emerging, offering fresh approaches to addressing the problems the profession encounters. Rapid DNA analysis techniques have been one important advancement; they allow forensic experts to obtain DNA profiles from evidence in a matter of hours as opposed to days or weeks. This could expedite the settlement of cases and decrease backlogs in forensic laboratories, especially in cases where DNA evidence is crucial [1].

In the field of forensic sciences, artificial intelligence (AI) has also shown to be a technology with enormous promise. Large data sets can be analyzed by AI algorithms, which can spot trends and lower the chance of human error. AI, for example, can be used to evaluate fingerprint or ballistics data, improving the precision of forensic analyses. AI can also be used to establish a timeline of events or identify possible suspects by analyzing digital evidence like emails or posts on social media [2].

Apart from AI and DNA analysis, a lot of work has gone into creating new techniques for evaluating different kinds of evidence. For the study of hair, fibers, and gunshot residue, for instance, creative techniques have been developed. A new technique for examining gunshot residue is called micro-X-Ray Fluorescence (micro-XRF) analysis. It uses X-rays to analyze the chemical makeup of particles on skin or clothing to determine whether or not someone has fired a pistol recently [3].

3D scanning and printing is another exciting technological advancement that makes it possible to create intricate replicas of crime scenes or pieces of evidence. The evidence can be examined from various perspectives by forensic investigators, and duplicates of the evidence can be produced via 3D printing for use as teaching tools or in court [4].

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