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Mini Review

Artificial Intelligence in Forensic Science

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Artificial intelligence is now emerging as the most important science in all spears of life. Likewise forensic science is also getting benefitted with it, thanks to the advances in the material science. More and more people understanding the impact of AI in everybody's life and inter-life and trying to understand through the digital science which is now in everybody's hand at the distance of finger tips within seconds [1].

Digital forensics is a highly developing science which is becoming increasingly important in computation and requires the intelligent analysis of huge amounts of very complex data sets. So AI is an ideal approach to deal with many of the complex problems that currently exist in digital forensics.

Forensic statistics can provide scientifically founded ways of treating evidence for the practice of legal system which is more complex due to the available extensive information. AI can provide easy fast solutions to legal fraternity and people who need it most [2].

As we all know previously there was a communication gap between forensic statisticians, crime investigators and lawyers, statistical evidence is easily misinterpreted in court, resulting in wrong decisions and delayed justice or wrong justice. AI can provide new algorithms and best methods can be developed to support the communication between the parties involved.

AI algorithms can support argumentation and narrative based communication with statistical evidence and building justice on AI models of argumentation and scenario construction. AI will show events in graphical structures which can be used for express scenarios and also support probabilistic reasoning. AI can also give modeled scenario and it will be helpful for argumenting lawyers and judgment from the judges. AI helps Different judges can evaluate the information for the particular judgment.

AI developed mathematical and computational tools in the project will be practically assessed by means of realistic case studies and training sessions in collaboration with forensic legal practice. The expected end result of these modules will be the production of analytic tools for preventing judicial errors and practical tools for supporting legal practitioners. The models will also enable professional exchange between statistical experiments and legal professionals [3].

Following are the few of challenges faced by the forensic science. The ultra-exponential growth in storage capacity i.e. in miniatured devices like hard drives, USB sticks, optical media and flash drives can hold enormous amount of data which near impossible for any individual to evaluate in a short time. This data can be stored anywhere in the world for destructive purposes and to the degree of technical sophistication employed by opponents and destructive forces is unimaginable. So, AI is the best tool to store, evaluate and use this productive data for anticipate and prevent harmful activities by these forces. This can also be used as evidence for legal and administrative judgements [4].

AI can do meta-analysis of the meta knowledge available from different sources and it simplifies the complex data into an understandable language at a short available time. AI can provide and create repository that would contain known well sanitized examples of digital forensic investigations with known properties and results [5].

The importance of AI in the forensic science is that it's well established ability to explain the reasoning process and there by this reasoning process varies from one algorithms to another or it can be improved with modification in the AI algorithms [6].

References

1. Turner P (2005) Unification of digital evidence from disparate sources (Digital Evidence Bags). Digital Investigation 2(3): 223-228.
2. Farquhar A, Fikes R, Rice J (1997) The ontolingua server: a tool for collaborative ontology construction. International Journal of Human-Computer Studies 46: 707-727.
3. Duce DA, Mitchell FR, Turner P (2007) Digital forensics: challenges and opportunities. In: Haggerty J, Merabti M (Eds.), ACSF 2007: Proceedings of the 2nd Conference on Advances in Computer Security and Forensics, School of Computing & Mathematical Sciences, Liverpool John Moores University, UK.
4. The UCI Machine Learning Repository is an example of such a case repository, and is used by the machine learning community to test new algorithms.
5. Gogolin G (2010) The digital crime tsunami. Digital Investigation, Elvisier, Amsterdam, Holland, Netherlands 7(1-2): 3-8.
6. Luger GF (2010) Artificial intelligence: structures and strategies for complex problem solving. In: Russell S, Norvig P (Eds.), Artificial Intelligence: A Modern Approach. (6th edn), Prentice Hall, USA.

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