Bias effects in forensics can be scientifically alleviated by stochastic computing

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We assume that experts have bias, ethics, and mistakes in forensics. There are two categories of biases: motivational and cognitive. A motivational bias is a generally conscious tendency to favor a particular party, for self-serving or personal motivations (2). There are four types in cognitive bias: contextual bias, confirmation bias, selection bias, and expectation bias. Bias, ethics, and mistakes must be treated as errors in forensics. Stochastic computing can alleviate bias effects in forensics. However the stochastic computing scheme is expensive in general. In order to suppress bias effects in forensics by stochastic computing, all possible biases and mistakes have to be transformed into random noise. The important question is how to transform biases in forensics into random noise. Independent groups with different processes in forensics must be prepared. A group should be formed by different kinds of experts. A simple simulation of stochastic computing can show us how many independent groups, how many different kinds of experts, and how many different processes are needed in given biases.

References:

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