



CHANGING DIMENSIONS OF
CRIME
IN THE 21ST CENTURY



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CHAPTER 13

Critical Appraisal of Cyber Forensic Investigation vis a vis Pattern Recognition Technique

Komal Khare and Dr. Wasim Ahmad***

INTRODUCTION

Crime has existed for as long as people. The majority of crimes leave behind “silent evidence.” Physical evidence, or the remnants of materials, are discovered at the crime site and serve as powerful hints that later become the most persuasive witness. Silent truth-speakers are evidence that is clearly visible at the crime scene, such as dust, pollen, bloodstains, bullets, glass, paint, hair, ash, and the like. As such, these materials can be useful pieces of evidence in the possession of forensic experts who are just interested in the truth. The Latin word ‘*forensics*,’ which essentially means ‘*forum for discussion*,’ is where the term ‘*forensics*’ originates.

These days, forensic enquiry uses a variety of scientific and technological aspects to establish facts in either civil or criminal courts. A diverse field, forensic science primarily draws from the fields of chemistry, biology, physics, geography, psychology, social sciences, and similar fields. The study of physical evidence gathered from all potential sources that may be connected to a criminal or victim is known as forensic science. Cyber forensics is the most recent addition to this field. Its primary objective is to submit the validated claims of scientific procedures and tactics to recover any major digital traces. It is digital and incorporates cutting-edge computer science technology.

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CRIME AND ITS RELATIVITY WITH INTERNET

Since its launch in 1989, the Internet the most important technological development ever envisaged by TIM Berner Lee has expanded beyond anyone's wildest expectations. The globe has become a global village as a result of '*the world wide web.*' About two-thirds of the world's population now communicates and interacts digitally. This has had a substantial impact the business and vital infrastructure, as well as on basic facets of contemporary society, and it has helped to transform society. The world economy has undergone a remarkable transformation due to cyberspace. The extent of cyberspace use, its size, and the growing acceptance of the internet reveal a worldwide fixation that makes the internet an essential and captivating component of daily life. Increased use of chat, social networking, email, and other forms of communication, as well as massive amounts of online shopping, banking, gaming, buying gifts online, buying tickets for trips, buying real estate online, and other activities, only serves to highlight the paradigm shift in society from citizens to netizens. A recent survey was carried out to determine how reliant young people are on the internet. According to the survey's findings, 75% of young people between the ages of 16 and 24 said they could not function without the internet. Despite its beneficial technological advancements, the internet offers plenty of opportunities for dishonest people to engage in unpleasant behaviours because of its accessibility, openness, and enhanced anonymity in the virtual world. The increasing prevalence of e-governance has started to have a significant impact on citizen's lives. Many of these could be classified as mission critical fell out on all these projects. Driving licences, vehicle registration certificates, income tax returns, land records, banking transactions, credit cards, railway reservations, passport issuance, immigration control, and many more have become commonplace. Nowadays, the nature of risks and vulnerabilities is changing more and more, necessitating the