**Capabilities of a digital forensic investigator-**

**Skills for a computer forensic investigator**

* Knowledge of local, state and federal criminal law.
* Knowledge of proper evidence collection and reporting techniques.
* Proficiency in common computer programming languages.
* Knowledge of how popular device and systems hardware and software work.
* Proficiency in statistical analysis and mathematical modeling
* Ability to encrypt and decrypt digital data
* Understanding of digital storage practices on devices and networks
* Knowledge of common operating systems like:
* MS Windows
* MacOS
* Linux
* Unix
* Ability to reverse engineer computer bugs like malware and Trojan horses
* Knowledge of local, state, federal and international data privacy and protection laws
* Aside from these technical skills, computer forensic investigators also benefit from qualities like:
* Attention to detail
* Excellent written and verbal communication
* Problem-solving
* Desire to research and learn

Computer forensic investigators spend their days analyzing and recreating data breaches and hacks to learn more about what happened. Their work is like what forensic investigators do at crime scenes but takes place online or through digital software and systems because that's where cybercrimes happen. Most computer forensic investigators gather evidence from computers, mobile phones and other devices. The day-to-day responsibilities of a computer forensic investigator include:

* Gathering evidence from cyber crimes
* Retrieving data from virtual networks and physical devices
* Reconstructing events that led to a cyber attack
* Recovering data compromised in a hack
* Reconstructing and restoring data damaged or erased from devices
* Using computer forensics software to collect and analyze data
* Extracting metadata from a variety of sources
* Analyzing extracted metadata
* Identifying vulnerabilities within an organization's cybersecurity system
* Writing investigative reports
* Reporting cybercrime findings to law enforcement and other necessary authorities
* Ensuring a proper chain of custody of digital evidence
* Providing expert witness testimony about digital evidence at trial or in court