

# A Guide to Cracking Down Cyber–Ethical Dilemmas

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## INTRODUCTION

Brutal cyberattacks continues, the exorbitant cost of damages keeps on soaring, *cyberwar* proliferates fast despite the *big spending* (in billion US dollars) on cybersecurity. This is skin to a vicious circle culminating in a chronic disease aptly called a “chronic problem of data protection” (Lee, 2019). The problem is arguably rooted in our indifference to ethics or insufficient understanding of the ethical principles and the practice of these principles, so that the ethical dimension of the problem is missed out when formulating information security policies and implementing information protection systems.

*Fallacious beliefs* and *relativistic arguments* exacerbate the problem; the tripartite relationship, called the “*Ethics-Law-Security Connection*”, complicates the situation. The *techno-ethical threats* prove the urgency of the problem. The *ethical ramification and challenges* reinforce that urgency.

Given that it is unrealistic to keep all threats out as threats inflicted by insiders, clients, contractors, etc. are ever-existing, eradicating the problem is desirable but doomed to be futile. Hence, mitigating by lessening the incidence of hacking or making hacking exasperate so as to minimize damages is a sensible and feasible alternative. An *ethics-based guide* underpinned by Ethical Computing was conceived. The aim of this guide is to identify ethical issues, to discover significant ethical and security ramifications, to connect the issues to the relevant theories and technologies, and to resolve the ethical dilemmas, with a 3-point precondition: Know your ethics, Shift view and understanding of risk and ethics, and Take ethics seriously. This chapter is about that guide and concludes the exposition with an illustration of some common dilemmas.

## BACKGROUND

### Ethical Computing

Ethical Computing is the practice of *Computer Ethics*. It aims to deal with identifying/discovering ethical issues arising from developing and using computer-based application systems and analyzing these issues to come up with balanced solutions. Its current major issues of interest include privacy, intellectual property, digital-divide, professionalism, trust, anonymity, and cyberbullying. Its methods and tools for ethical analysis include the *Ethical Matrix* and *Hexa-dimension Metric*. (Lee, 2015b and Lee, 2018a)

### Computer Ethics

Ethics is the same in peace times as during the *cyberwar era*. Computer Ethics, Data Ethics, Cyberethics are terms that denote more or less the same phenomenon. While *Data Ethics* is about the ethical issues

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involved in collecting, sharing, interpreting, synthesizing, and using data (Floridi & Taddeo, 2016), *Computer Ethics* or cyberethics is a subfield in Applied Ethics akin to Business Ethics, Technology Ethics, Medical Ethics, etc., and focuses on the *ethical issues* surrounding the computer. Following the classic definition by Moor (1985), different views of Computer Ethics appear in the literature (Johnson, 2009, for example). Computer Ethics has a wider scope and should be viewed as a dual mission (a discipline cum practice grounded in ethical principles) and a dual function (a risk as well as an anti-risk mechanism) (2014-15).

## Ethical Principles

Only the common theories/principles are briefly reiterated in this chapter for illustration purposes.

### Duty-based principles

- *Deontology* asserts that an action is morally right if it is done out of a sense of duty.
- *Kantian Categorical Imperative* tells us never to treat human beings merely as means to an end; always treat them as ends in themselves. A human being hence has a right not to be exploited and has a duty not to exploit another human being.

### Results-based principles

- *Consequentialism* holds that an action is morally right if its consequences are beneficial or morally wrong if its consequences are harmful.
- *Utilitarianism* means that an action is morally wrong if its results are more harmful than beneficial.

### Other common principles

- *Golden Rule* states that “Do unto others as you would have them do unto you” or “We should do to others what we would want others to do to us”.
- *Social Contract Theory* says that an action is morally wrong if someone’s rights are being violated or an action is good if it is carried out in accordance with moral rules that rational people would collectively accept as binding because of the resulting benefits to the community.
- *Virtue Ethics* advises us to live according to the values we cherish and care.

Note: Sometimes these principles may be in conflict; self-reflection/self-discipline helps to make a balanced decision.

## The Double-Edged Sword Effect

Ethics has a dual function which is akin to a double-edged sword; it can be on the one hand an attacker – it can expose unethical consequences of an action that violates ethical principles or it may cause the wrongdoings to backfire at the ethical abusers. On the other hand, it can be a shield or protector or an anti-risk measure to defend actions which are consistent with the ethical principles. (Lee, 2014-15) For illustration, in the case of US President Nixon’s downfall, it is ethics that defeated him, not the law, and in the case of South African President Mandela’s survival, ethics plays a role in strengthening him against politico-legal suppression during his ordeal. The following episodes further enlighten this effect:

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