

A Code of Ethics for Computing Practitioners at the University of Notre Dame

Table of Contents

Preamble	1
Moral Prerogative	2
Take all possible measures to avoid harm to the innocent.	2
Do not intentionally damage others' systems.	2
Acknowledge money that is not an end unto itself.	2
In all cases, eschew arrogance.	2
Data and Information	2
Strive for openness and availability of all information which will promote the prosperity of humanity, but always consider privacy.	3
Fight censorship at every turn	3
Systems should be simple and beautiful.	3
Do not take for granted the collaborative nature of computing.	3
Seek opportunities to spread knowledge of computing.	3
Technology and Humanity	4
The emergence of AI must be met with careful excitement.	4
Cybernetics provides a moral conundrum.	4

Preamble

The rapid growth of computing technology imbues its practitioners with an ever growing power. Considering the effort it would take to centrally govern all those who use and develop computing technology, the writers of this document advocate for a decentralized, individualistic governance, undertaken by all computing practitioners. The following guidelines shall align the moral compasses of its readers to a common goal, which is to promote the spread of and education about computing technology for the good of all people.

Moral Prerogative

As stated in the preamble, modern computing enables wondrous and terrible actions. The following principles shall outline the responsibilities associated with the wielding of this power.

Take all possible measures to avoid harm to the innocent.

There may be instances in which harm is unavoidable. In such instances, one should choose the path which is least detrimental to the prosperity of humanity, even if that path conflicts with one's personal interests.

Do not intentionally damage others' systems.

But seek out vulnerabilities and flaws. Collaborate with one another to build more secure systems (secure systems which do not hide information as a means of control). If one unintentionally damages a system, then it is one's duty to gain the competence to never make that same mistake again.

Acknowledge money that is not an end unto itself.

The blind pursuit of wealth is perhaps the easiest way to violate any number of the principles enumerated in this document. The authors of this document have no moral objections to the acquisition of wealth, but it should be used in pursuit of these other principles.

In all cases, eschew arrogance.

It is the bane of collaboration and the sower of prideful, selfish actions. Self-improvement is important, but always realistically acknowledge one's weaknesses and the fact that there are others more skilled than oneself.

Data and Information

Our moment in history is fortunate to be witnessing the most rapid proliferation of information systems in the world's history. These systems enable the aggregation of humanity's collective knowledge into publicly accessible repositories. This sharing, above perhaps any other feature of modern computing, will drive humanity into the next technological age.

Strive for openness and availability of **all** information which will promote the prosperity of humanity, but **always** consider privacy.

Except when direct harm may result from the sharing of information, information shall be shared. Humanity shall be empowered by its collective sources of information. However, the authors of this document distinguish *personal* data from non-personal data, and sharing of personal information **must** be governed by its subject. It is ultimately at the subject's discretion whether their information shall promote humanity's prosperity.

Fight censorship at every turn

Censorship is a direct contradiction of the open information principle, and is used by unjust organizations (governments, corporations, etc.) to control the masses within their spheres of influence. In exerting their control over these people, they strip them of their own agency and ultimately work to decompose their fundamental freedoms.

Systems should be simple and beautiful.

In compliment to the open information principle, the writers of this document believe that the obfuscation of system components hinders the proliferation of information about that system; an inherent flaw. Simplicity and elegance in code and in the design of systems is a mark of mastery; all practitioners of computing technology should strive for mastery in their area of specialty.

Do not take for granted the collaborative nature of computing.

Always give credit where due, and do not use others' work without express permission, whether by explicit given permission, open source license, or otherwise. Furthermore, do not allow your own competencies to become contingent on your computing community. If one decides to incorporate another's work into one's system, one **must** comprehend the internal operations of that work.

Seek opportunities to spread knowledge of computing.

Just as openness in general information shall promote humanity's prosperity, so too shall the proliferation of computing aptitude promote that very prosperity. Basic computing competence will be essential for people in the not-so-distant future, so the onus lies on present computer scientists to share their wealth of knowledge so that humanity as a whole can embrace the future of computing. The global community of computer scientists must not become an exclusive, elite tribe, but a welcoming, open-minded community of all manner of people.

Technology and Humanity

Computer scientists ride the bleeding edge of technology in nearly all fields, and must anticipate the challenges of future technology.

The emergence of AI must be met with careful excitement.

Artificial intelligence promises the potential to revolutionize our lives for the better. Self-driving cars will reduce carbon emissions and save many lives. Computers in the future may be instructors to countless humans. Personal digital assistants have the ability to facilitate everyday life. At the same time, artificial intelligence provides the possibility of malicious behavior. All artificial intelligence should be encoded to prioritize high moral and legal standards. Further, artificial intelligence must be widespread in order to safeguard against the possibility of one system going rogue. Lastly, the liabilities associated with an AI system must be codified into a legal document in order to provide recourse in the case of an accident or tragedy.

Cybernetics provides a moral conundrum.

The possibility of mind-machine could do a great service to humanity. It could restore many abilities to the paralyzed or prolong life for the ill. At the same time, it poses the threat of possible mind-control. Further, when does the prolongation of life no longer benefit the person? When does someone with various cybernetic interfaces cease to be human, if ever? These questions must be addressed by theologians, philosophers and ethicists alike before such technology becomes widespread.