



Red Hat

Morality and Ethics in Software: Can it be measured?

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Red Hat

Morality and Ethics

Ethics and morality are
quintessentially human

Morality and Ethics

Non-human creatures are not known to exhibit morals and ethics other than that suggested by humans

Let's look at the title of this talk:

“Morality and Ethics in Software: Can it be
measured?”

No, it can't be measured

No, it can't be measured
- but can be guided

Software is essentially an
expression of *algorithms*

And algorithms, in turn,
embody the *sum of ideas*
and *thought processes* of
developers

Hence, ethics & morality of
developers will manifest
itself, consciously or
otherwise, in the algorithms

(what about AI then?)

Ethics or Morality

1. Most people use them interchangeably
2. Both have to do with notions of right vs wrong or good vs bad
3. Morality is generally considered a personal value system, while Ethics is considered as a group-wise, socially defined value system

For the purposes of this talk, I will use Ethics to also mean Morality given the fluid usage

What is Ethics?

Raise your hands if the following statements make sense to you

What is Ethics?

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Ethics:

A set of standards of right and wrong that prescribe what humans ought to do, in terms of rights, obligations, benefits to society, fairness etc.

Ethics:

Also includes right to life, right to freedom from injury and the right to privacy

I am a developer

- I am a developer
- Why should I care about ethics or morality?

It would be immoral for
programmers to automate
everybody but themselves.*

Douglas McIlroy
https://en.wikipedia.org/wiki/Douglas_McIlroy

* NATO Software Engineering 1968 <http://homepages.cs.ncl.ac.uk/brian.randell/NATO/nato1968.PDF>

Questions and statements of morality and ethics in software have been raised for a long time

Recognising the increasingly urgent need for some form of ethical framework or code, the ACM and IEEE CS adopted a Code of Ethics in 1992 (and revised in 2018).

These efforts are similar to the Hippocratic Oath in medicine and equivalent ones in law, engineering, business, sports and various other endeavours.



ACM Code of Ethics and Professional Conduct

1. General Ethical Principles.
2. Professional Responsibilities.
3. Professional Leadership Principles.
4. Compliance with the Code.



ACM Code of Ethics and Professional Conduct

1. General Ethical Principles.

A computing professional should...

- 1.1 Contribute to society and to human well-being, acknowledging that all people are stakeholders in computing.
- 1.2 Avoid harm.
- 1.3 Be honest and trustworthy.
- 1.4 Be fair and take action not to discriminate.
- 1.5 Respect the work required to produce new ideas, inventions, creative works, and computing artifacts.
- 1.6 Respect privacy.
- 1.7 Honor confidentiality.



ACM Code of Ethics and Professional Conduct

2. Professional Responsibilities.

A computing professional should...

- 2.1 Strive to achieve high quality in both the processes and products of professional work.
- 2.2 Maintain high standards of professional competence, conduct, and ethical practice.
- 2.3 Know and respect existing rules pertaining to professional work.
- 2.4 Accept and provide appropriate professional review.
- 2.5 Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks.
- 2.6 Perform work only in areas of competence.
- 2.7 Foster public awareness and understanding of computing, related technologies, and their consequences.
- 2.8 Access computing and communication resources only when authorized or when compelled by the public good.
- 2.9 Design and implement systems that are robustly and usably secure.



ACM Code of Ethics and Professional Conduct

3. Professional Leadership Principles.

A computing professional should...

- 3.1 Ensure that the public good is the central concern during all professional computing work.
- 3.2 Articulate, encourage acceptance of, and evaluate fulfillment of social responsibilities by members of the organization or group.
- 3.3 Manage personnel and resources to enhance the quality of working life.
- 3.4 Articulate, apply, and support policies and processes that reflect the principles of the Code.
- 3.5 Create opportunities for members of the organization or group to grow as professionals.
- 3.6 Use care when modifying or retiring systems.
- 3.7 Recognize and take special care of systems that become integrated into the infrastructure of society.



ACM Code of Ethics and Professional Conduct

4. Compliance with the Code.

A computing professional should...

4.1 Uphold, promote, and respect the principles of the Code.

4.2 Treat violations of the Code as inconsistent with membership in the ACM.

The value of codes of ethics increases with real life use cases and situations. This helps to consolidate and solidify ethics for developers

How could we, as a
community, be the catalyst
for adoption and adherence
(and evolution)?

Here are three examples:

- a) Markkula Center of Applied Ethics App
- b) EthicsNet - data sets of ethics situations
- c) ACM's Ask An Ethicist



Markkula Center

for Applied Ethics
at Santa Clara University



Making an Ethical Decision

A practical tool for thinking through tough choices

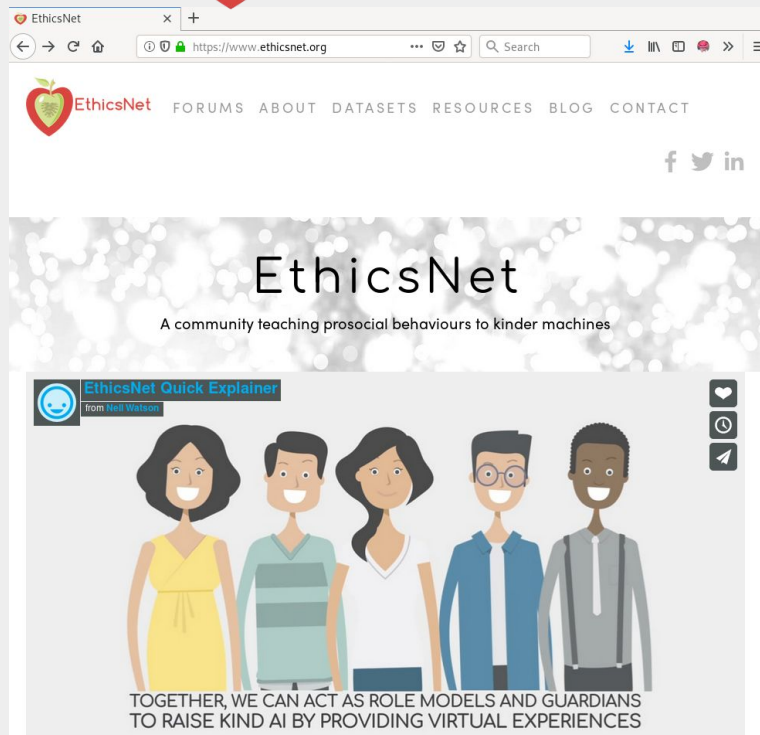
from

Markkula Center for Applied Ethics



Continue

<https://www.scu.edu/ethics-app/>



<https://www.ethicsnet.org/>



ACM Code of Ethics and Professional Conduct

Ask an Ethicist

“Ask an Ethicist” is a periodic blog/video series from the ACM’s Committee on Professional Ethics. Have an idea for a question that might make a good post? Have a burning question about the ACM’s Code of Ethics and Professional Conduct? Send them in here!

You may submit your suggested topics via our [online form](#).

Keep in mind that we do not respond to every question individually. If you have a ethics complaint, or a question that requires a response, you may contact chair@ethics.acm.org via email.

<https://ethics.acm.org/integrity-project/ask-an-ethicist/>

There are numerous “ethics tools” but they are domain specific (like leadership, social worker, health care, etc)

Wrapping up

Ponte Morandi, Genoa, Italy



By Davide Papalini - Own work, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=11542499>

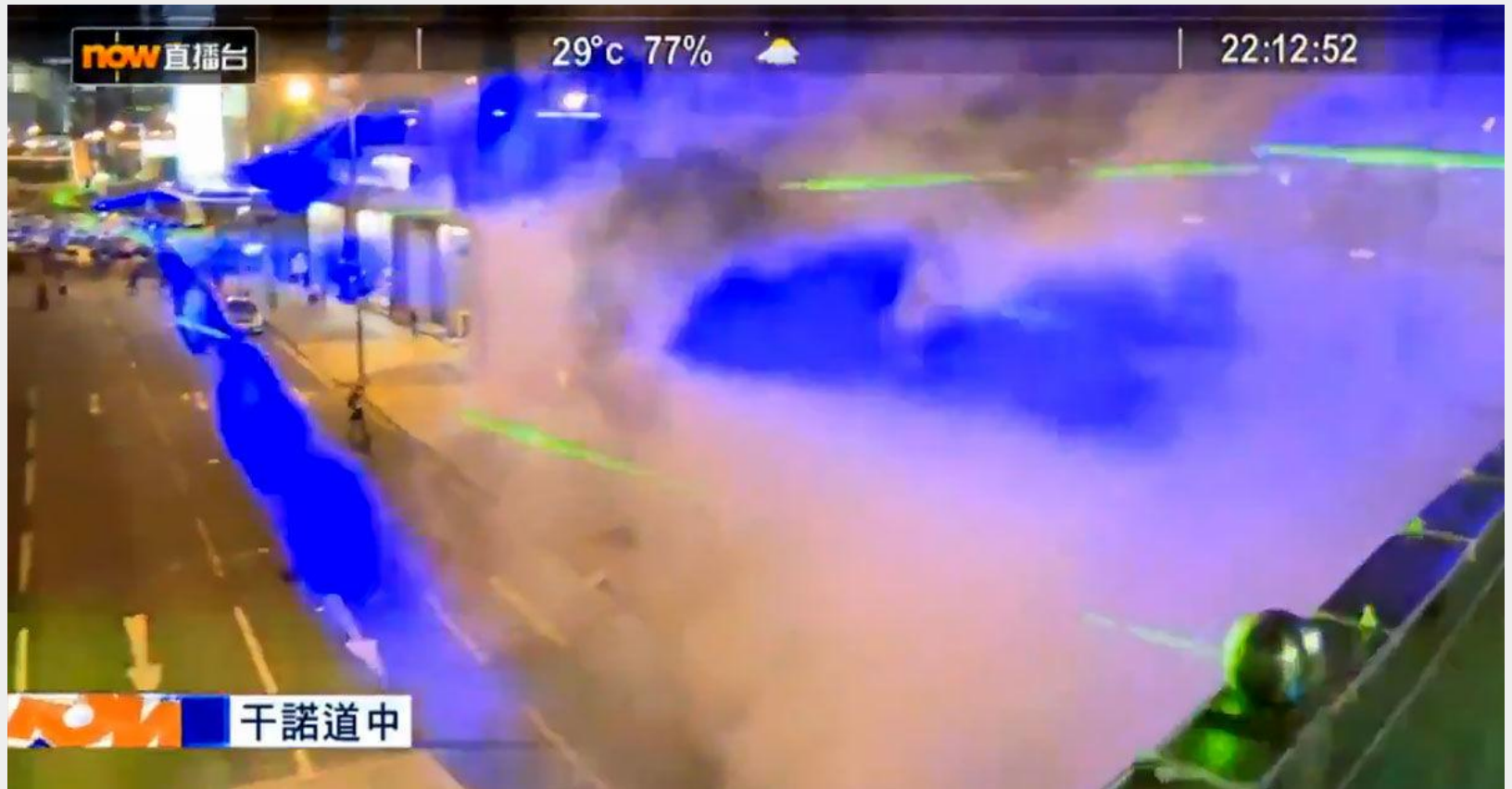
Ponte Morandi, Genoa, Italy August 2018 - 43 deaths



By Salvatore1991 - Own work, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=71622568>



"Watching" by [fredthechicken](#) is licensed under [CC BY-NC-SA 2.0](#)



<https://futurism.com/the-byte/hong-kong-protesters-lasers-facial-recognition> 31 July 2019

Parting thought - my rule of thumb

I would go with an ethical decision, even if that would be severely detrimental to me (physical, financial, emotional and career limiting etc).

Thank you

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