

Ethics

Senior Seminar

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Presentation

We'll discuss:

- Ethical issues related to technology
 - What you see as most threatening
 - Which issues seem most significant to you as an ethical computer professional
- Professionalism
- Ethical codes

Ethics

- Greek word “ethos”
- Person’s orientation to life
- Core issues:
 - Ways to foster a good society
 - Doing what is right (or just)

Ethical Issues to Watch for in 2021

Businesses today are face with several ethical challenges:

- Misuse of personal information
- Misinformation and deep fakes
- Lack of oversight and acceptance of responsibility
- Use of AI
- Autonomous technology

Misuse of Personal Information

How businesses use personal information:

- Personal information is the new gold
- Extremely valuable to know:
 - What type of content people are consuming the most
 - What kind of social or legal issues are getting the most attention
- Facebook under fire several times for selling personal data

Misinformation and Deep Fakes

Misinformation:

- We used to believe that video told a story that was undeniably rooted in truth
- People can appear to be saying and doing things that never happened
- Created wider support bases in 2016 & 2020 presidential elections

Lack of Oversight and Acceptance of Responsibility

Whose responsibility is it really?

- Companies operate with a hybrid stack, blend of 3rd-party and owned technology
- Governance, use of big data, cybersecurity, managing personally identifiable information, whose responsibility?
- Local policing results in fractured policy making and widespread mismanagement of data

Use of AI

What AI is ok?

- Facial recognition – the ability to track activity quickly morphs into a lack of privacy
- Large scale elimination of jobs
- What limitations are needed in health tracking?
- Bias in AI - technology is built by programmers and inherits their biases

Autonomous Technology

Autonomous technology, now and in the future:

- Self-driving cars
- Package delivery via unmanned drone
- Robotic machines in place of human soldiers
- Large business potential, but operating seemingly without needed oversight
- Might we trust our technology too much without fully understanding it?

Others?

- Misuse of personal information
- Misinformation and deep fakes
- Lack of oversight and acceptance of responsibility
- Use of AI
- Autonomous technology
- External influence, gifts influencing best judgement
- Pushing proprietary technology preventing innovation, monopolies



- Passion exploitation – “mandatory” overtime, burnout
- Quality of work affecting things such as security exploitation

Discussion

Which issues do you consider the most consequential for you and your family, and why?

- Security
- Misuse of personal information
- Worker exploitation

Discussion

Which issues do you see as most significant to you as an ethical computer professional?

- Autonomous technology
- Quality of work, lack of oversight

What do you do?

Suppose you are a member of a team working on a computer-controlled crash avoidance system for automobiles. You think that system has a flaw that could endanger people. The project manager does not seem concerned and expects to announce completion of the project soon.

What do you do?

Question

To what extent are computer scientists morally responsible for anticipating and publicizing some of the problems, as well as the social good, that are likely to result from their creations?

Computer Professionals

Because of our role in developing software systems, software engineers have significant opportunities to:

- do good or cause harm
- enable others to do good or cause harm
- influence others to do good or cause harm

Computer Professionals

To ensure, as much as possible, that our efforts are for good, software engineers must commit to making software engineering a beneficial and respected profession.

Public Interest

Ethical tensions are best addresses by:

- Broadly considering who is affected
- Considering how the public, if reasonably well informed, would view our decisions
- Examining if we, and our colleagues, are treating other human beings with respect
- Analyzing how the least empowered will be affected by our decisions

Public Interest

- Considering whether our acts would be judged as worthy of the ideal professional working as a software engineer.

Professions

American Medical Association's Principles of Medical Ethics (AMA)

American Psychologist Association's Ethical Principles of Psychologist (APA)

Strengths of Ethical Codes

Ethical codes:

- “sensitize” members to ethical issues and alert them to ethical aspects they otherwise might overlook
- guide members in ethical choices
- inspire members of a profession to behave ethically
- educate members about their obligations

Strengths continued

- inform the public about the nature and roles of the profession
- enhance the profession in the eyes of the public

Ethical Codes – Past and Present

Previous:

Listed violations & threatened sanctions for violations

Establish status as a profession & convince the public that they deserve to be self-regulating

Current:

Clarify responsibilities by embodying a set of commitments

Persuade the public that professionals are deserving of its confidence and respect and of increased social & economic rewards

Ethical Codes

Current:

- Aid to individual decision making

Weaknesses of Ethical Codes

- Directives tend to be general and vague
- Directives may conflict
- Have “no teeth”
- Can be self-serving for the profession

Relevant Ethical Codes

- IEEE (1990)
- ACM (revised 1992)
- ACM / IEEE for Software Engineers (1999)