Ethics in Computing

What are some ethical issues in computer science?

https://www.infoworld.com/article/2607452/application-development/12-ethical-dilemmas-gnawing-at-developers-today.html

What ethical guidelines do computer scientists have?

- https://www.acm.org/about-acm/acm-code-of-ethics-and-professional-conduct
  - 1.1 Contribute to society and human well-being.
  - 1.2 Avoid harm to others.
  - 1.5 Honor property rights including copyrights and patents.
  - 1.7 Respect the privacy of others.
  - And more…

The Trolley Problem (Classic Version)

- There is a runaway train (trolley) barreling down the tracks, upon which 5 people are tied up and unable to move. The trolley is headed straight for them. Nearby is a lever that will switch the train to a different set of tracks, where there is one person tied up. What do you do?

- Do nothing, and the train kills the five people on the main track.

- Pull the lever, where the train changes tracks and one person is killed.

The Trolley Problem (Fat Man Version)

- There is a runaway train (trolley) barreling down the tracks, upon which 5 people are tied up and unable to move. The trolley is headed straight for them. You are on a bridge above the tracks, next to a very large man. What do you do?

- Do nothing, and the train kills the five people on the main track.

- Push the man off the bridge and onto the track. The man will be killed, but the five people will be saved.

What are some ethical issues in computer science?

- Should a self-driving car ever sacrifice its passenger to prevent fatalities of multiple pedestrians? (http://moralmachine.mit.edu/)
  - https://www.researchgate.net/publication/301293464_The_Social_Dilemma_of_Autonomous_Vehicles

- Digital ethics and the future of humans in a connected world
  - https://www.youtube.com/watch?v=bZn0IfOb61U

- The Filter Bubble
  - https://www.ted.com/talks/eli_pariser_beware_online_filter_bubbles

How should ethical decisions be evaluated?

- https://www.ted.com/talks/damon_horowitz

How should ethical decisions be evaluated

- Deontological ethics – we are morally obligated to act according to rules and principles regardless of outcome
  - Rules can come from religious doctrines, or laws
  - Rules can come from "reason" (Kantian ethics)
    - Can I rationally will that *everyone* act as I propose to act? If the answer is no, then we must not perform the action.
    - Does my action respect the goals of human beings rather than merely using them for my own purposes? Again, if the answer is no, then we must not perform the action.
- Utilitarianism / consequantialism (John Stuart Mill)- decisions should be judged based on their likelihood of increasing overall human happiness.
  - "The ends justify the means"
- The Rights approach, Virtue approach, and others (https://www.brown.edu/academics/science-and-technology-studies/framework-making-ethical-decisions)

Example dilemma

- A cybersecurity official working for the NSA discovers a "backdoor" allowing access to all cellular communications.
  - Should this backdoor be reported immediately to the relevant companies?
  - Should the backdoor be utilized to detect potential terror threats?
- Following Kantian ethics, which decision would be correct?
- Following utilitarianism, which decision would be correct?