# Ethics

Lectures: Monday 1:10-2pm in Sproul 2343

TA: Ryan Holt

Lab: Tuesday 7-10pm in Chung 133

http://www.cs.ucr.edu/~rholt002/cs179i_winter17/

# Outline

- Ethical theories
- Practical ethics
- Action items

# Ethical Theories

# Requirements of Moral Theories

- Question: is decision X ethical?

- Requirements of moral theories
  - Verifiable
  - Consistent
  - Provide a reasonable account of what is good

- Assumption: person is autonomous and capable of rational decisions

# Rejected Moral Theories

- Divine command
  - Something is right if it follow religious teachings
  - Not **verifiable** by rational means
  - Can still be useful, but not a moral theory by our definition
- Ethical egoism
  - Something is right if it produces the most benefit for oneself
  - Not **consistent** between agents, i.e., an ethical decision by one person may not be the right decision for others
- Ethical conventionalism
  - Something is right if it follows local cultures or laws
  - No objective meaning of ethics
  - Many examples of cultural laws that morally unacceptable to others

# Three Major Approaches

- Utilitarianism (Mill)
  - Something is right if the total benefits outweighs the total costs
  - Focus on consequences of the action
- Duty-based (Kant)
  - Something is right if it fulfils your duty or ethical principles
  - "Act only according to that maxim whereby you can, at the same time, will that it should become a universal law." - Kant
  - Focus on the action/decision itself
- Virtue-based
  - Something is right if it is a decision that a virtuous person would make
  - Focus on the character of the person performing the action

What if costs and benefits are not equally distributed across people?
E.g., Highway construction: displaced people might not benefit

What if you have different duties to different people?
E.g., Whistleblowing: duty to company vs duty to society

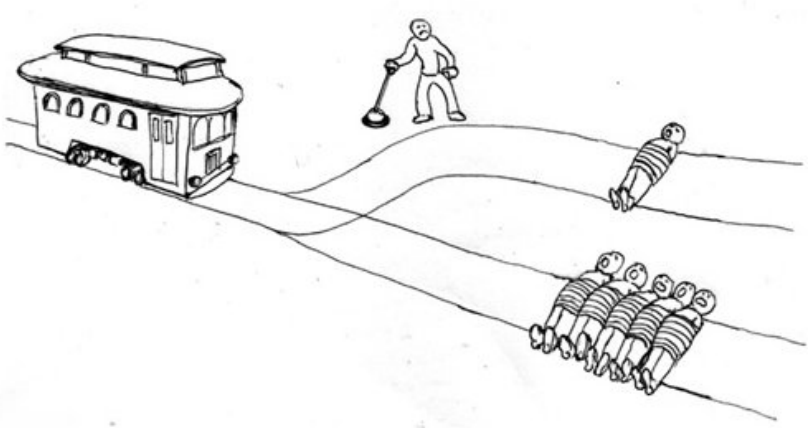
What should I do in a specific situation?

# Case Study 1: Lying

- Question: Is lying permissible?
- Utilitarian: depends on the consequences of the lie, some “white lies” allowed
- Duty: Lying is always wrong
- Virtue: An honest person would not lie

# Case Study 2: Trolley Problem

- Scenario
  - Train is running along a track towards 5 people
  - Can flip a switch to force the train to the 1-person track



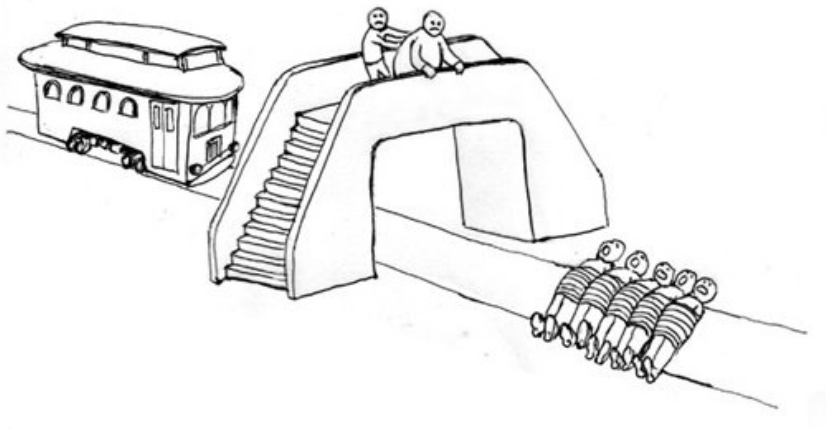
- Question: Should you flip the switch?

- Utilitarianism: Flip the switch to save 5 lives versus 1

Sources: Philippa Foot, "The Problem of Abortion and the Doctrine of the Double Effect", *Oxford Review*, 1967
http://moralitysrandomwalk.com/explanatory-power-for-puzzles-about-morality-2/

# Case Study 2: Trolley Problem

- Scenario
  - Train is running along a track towards 5 people
  - Can push a “fat man” to stop the oncoming train, killing him



- Question: Should you push the man?

- Duty-based: Should not kill people

Sources: Philippa Foot, “The Problem of Abortion and the Doctrine of the Double Effect”, *Oxford Review*, 1967
http://moralitysrandomwalk.com/explanatory-power-for-puzzles-about-morality-2/

# Practical Ethics

# ACM Code of Ethics

- Contribute to society and human well-being.
- Avoid harm to others.
- Be honest and trustworthy.
- Be fair and take action not to discriminate.
- Honor property rights including copyrights and patent.
- Give proper credit for intellectual property.
- Respect the privacy of others.
- Honor confidentiality.

# IEEE Code of Ethics

- to accept responsibility in making decisions consistent with the safety, health, and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
- to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
- to be honest and realistic in stating claims or estimates based on available data;
- to reject bribery in all its forms;
- to improve the understanding of technology; its appropriate application, and potential consequences;
- to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;
- to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
- to treat fairly all persons and to not engage in acts of discrimination based on race, religion, gender, disability, age, national origin, sexual orientation, gender identity, or gender expression;
- to avoid injuring others, their property, reputation, or employment by false or malicious action;
- to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

# Practical Issues for Engineers

- Public safety and welfare
- Risk and informed consent
- Conflict of interest
- Data integrity
- Whistleblowing
- Choice of a job (e.g., work for a defense contractor, oil company)
- Plagiarism
- Trade secrets and industrial espionage
- Gift giving and bribes

# Case Study 3: Edward Snowden

- Scenario
  - Snowden worked for the CIA, contractor for the NSA
  - In 2013, released thousands of documents detailing surveillance programs of Americans
  - Currently living in Russia under temporary asylum
- Question: should Edward Snowden have revealed National Security Agency (NSA) classified documents?
- Implications to cloud industry
  - Google, Cisco, AT&T lost business due to suspected involvement
  - Estimated $35 billion loss to cloud industry in USA

Source: https://en.wikipedia.org/wiki/Edward_Snowden

# Case Study 3: Edward Snowden

- Utilitarianism
  - Loss in revenue to US companies
  - Increase in revenue for foreign companies
  - New R&D and investment in secure email, cell phones, network protocols
- Duty-based
  - Duty to employer?
  - Duty to society?
- Virtue-based
  - Loyalty?
  - Honesty?

# Case Study 4: Ad blocking

- Scenario
  - You have developed cool ad-blocking software allows you to watch YouTube on your phone with ads and with the screen off
- Question: Should you use this app?
- Utilitarianism
  - Increased user satisfaction
  - Decreased energy consumption
  - Decreased revenue for content provider
- Duty-based
  - Right to good user experience
  - Duty to support livelihood of content creators

# Example: Michael LaCour

- Scenario
  - Graduate student in political science at UCLA
  - In 2014, published a *Science* article stating that people's long-term views on gay marriage could be changed by a single contact
  - Stanford professor noticed irregularities in LaCour's data collection methods
- Results
  - *Science* paper rescinded by second author (senior professor at Columbia)
  - Princeton University rescinded professorship job offer

Source: http://nymag.com/scienceofus/2015/05/how-a-grad-student-uncovered-a-huge-fraud.html

# Action Items

# Your New Task

- Think about your design project and possible implications
- Choose two or more implications
  - Ethical, legal, security, social, professional
- Write an essay
  - 1500 words total
  - Due Mon. Feb. 27, 2017 at 1:10pm
  - Worth 2.5% of grade

# Example Essay

- Project: design compression algorithm that allows you to add a password requirement to unzip a file

- Ethical
  - Two companies want to buy the rights to use your compression algorithm in an MP3 player. Company A will manufacture the devices in California, and they will pay you $20,000. Company B will manufacture the devices in Sri Lanka, and they will pay you $25,000. Which company do you sell the rights to?

- Legal
  - You realize your new compression algorithm that might be worth millions of dollars. Does the university or the instructor deserve a share of the royalties? Do your teammates deserve any of the royalties?

# Possible Essay Topics

- VR
  - People end up using your VR system for illegal activities. Is it your responsibility to police their actions? How should you draw the line between acceptable and unacceptable activities?

- Download booster
  - You develop an awesome download booster app, but a major ISP offers to pay you to block access (since you are using too much of their network). Do you agree?

# Next Class: Oral Progress Update

- Each group will give a 5-minute oral presentation
- Briefly outline project idea, with one representative figure
- List Milestone 0 targets from proposal
- Show which milestones are completed
  - If not completed, explain why (e.g., design decision because of xxx, technical difficulties because of yyy)
- List and explain remaining milestones
- Each group member must speak
- Submit a copy of your slides (~5 slides)

# Sources


- Herkert, J, Social, Ethical, and Policy Implications of Engineering:Selected Readings, Wiley-IEEE Press, 2000

- “Introduction to ethics”, *BBC*, http://www.bbc.co.uk/ethics/introduction/