Ethics

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CS 179i: Project in Computer Science (Networks)
Lectures: Monday 3:10-4pm in Spieth 1307

http://www.cs.ucr.edu/~jiasi/teaching/cs179i_winter16/
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

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

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 research 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

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. 15, 2016 at 3:10pm
  • Worth 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

• Security
  • What if this technology is used for illegal activities?
  • You have sold your company for billions of dollars, but discover a bug in your code that provides a backdoor. How can you protect yourself against lawsuits?

• Media
  • Should content providers be allowed to sponsor cellular video/music data, which will potentially encourage more users to use your app?
  • How much should you pay artists to stream their music online?
  • People end up using your video/VR technology to watch illegal content. Should you set up a blacklist? How should you draw the line between acceptable and unacceptable content? Should content providers be allowed to pay to be on the whitelist or removed from the blacklist?

• Social/Location
  • A company offers to invest a large sum in your startup, in return for the anonymized user location logs. Your users were not aware that their data could be given to third-parties. Should you accept the offer?
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)
• One-page written summary of your presentation (similar to transcript)
Sources


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