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# 1 Reliance and trust in computers

- Computers in health services
- Computers in training and assessment
- Computers in control of engines and machinery
- Computers in operational and financial scenarios
- Computers in genetics

In all of these cases computer is making decisions and we humans trust it to make the right one.

## 1.1 Expectations of autonomous systems

“So, rather than verifying the agent never chooses a course of action it **believes will lead to a bad situation**, we would like to verify the agent never chooses a course of action that **it believes is more likely to reach a bad situation** than its other options”

# 2 Why professional ethics

In everyday practices we face issues and make decisions. We may be dealing with ethical issues but:

- We might not recognise them
- We may automatically do the easy thing
- We may do things we subsequently regret
- We may get ourselves and our employer into trouble
- We may miss opportunities.

# 3 Ethics and morality

**Ethics** is a set of **morally permissible** standards of a group that each member of the group, at his/her rational best, wants every other member to follow, even if their doing so would mean that he/she **MUST** do the same.

**Morality** is the set of standards that everyone (every rational person at his/her rational best) wants everyone else to follow, even if their following them means having to do the same.

## 3.1 Rational best in ethics reasoning

- Rational best:
  - Refers to the mental state of the person who wants the (ethical/moral) rules to be followed.
  - The person is assumed to be a rational persona whose capacity for reasoning is not diminished through some form of injury, disease, drugs, grief, fear, etc.
- Practical reasoning
  - Used to make decisions.
  - Often starts with the *code of conduct* and then takes into account mitigating circumstances.
  - There is not a set of common axioms/premises and the inference may be disputable.

## 3.2 Ethics vs morality

Ethical rules are not always moral rules. They can be morally **neutral**.

- If an IT professional delays installing a security patch and a person loses data, moral rules may not have much to say.

Breaking ethical rules may not mean breaking moral rules

- Publishing salaries of doctors in the USA may be unethical but not immoral

**Ethics** refer to rules provided by an external source, e.g., codes of conduct in workplaces or principles in religions.

**Morals** refer to an individual's own principles regarding right and wrong.

## 4 Properties of moral theories

Moral theory defines morality. Our definition of morality may not be acceptable to everybody. Morality answers to questions: **How do I know that X is good. Why is X good**

### 4.1 Virtue theory

Virtue ethics are normative ethical theories which emphasize *virtues* of mind and character. Virtue ethicists discuss the nature and definition of virtues and other related problems.

### 4.2 Focusing on the actions and implications

- **Consequentialism:** Consequences of an action, not the motivation behind the action, makes the action good or bad.
- **Utilitarianism:** Right decision is the one that causes the most happiness\*.
  - Act utilitarianism: Determine whether or not the action taken maximizes happiness, compared to the other options
  - Rule utilitarianism: Determine whether or not the action taken complies with the set rules

## 5 Properties of ethics theories

All social contract theories of ethics must be fair. We are in search of ethical theories that have two key qualities:

**Impartiality** Every person is treated equally and no one is given preferential treatment in the theory.

**Universality** A decision based on the theory should be correct for everyone that has a similar decision to make.

## Reference section

### **code of conduct**

The code of conduct for a group or organization is an agreement on rules of behaviour for the members of that group or organization.

### **virtues**

Behaviour showing high moral standards. Good moral quality in a person, or the general quality of being morally good: