COMP4920 Essay1

Question: Assume that computer science is being established as a licensed profession (along the lines of law and medicine). Assume also that you have been tasked with the formulation of the ethical guidelines for the governing association of this new profession. How might the use of act versus rule utilitarianism to motivate the ethical guidelines for this professional association of computer science result in different professional guidelines? Which of act and rule utilitarianism do you prefer for this purpose? Why? Justify - that is give reasons for - your answer.

Computer science is the most popular subject in today's society. Due to its diverse and constantly evolving nature, as well as its wide range of employment, the vast majority of people choose it as their career field. Now in this essay we will make a series of assumptions about what will happen if computer science becomes a licensed profession, draw up some guidelines for the association that governs this profession and discuss the use of act versus rule utilitarianism.

Firstly, establishing licensing requirements results in certain standardization in the computer science industry, ensuring that all licensed professionals meet a certain level of education and skills. As the threshold for this industry increases, the average skill level of relevant practitioners will increase. They may take on more legal and moral responsibilities as they are now experts certified according to official standards. In order to maintain the authority to hold a license, relevant departments may conduct random checks on computer science practitioners at regular intervals. If they fail to make sufficient contributions to the industry or violate certain laws or regulations during the period of holding the license, they may have their license confiscated or permanently banned from the profession.

Secondly, the guidelines are necessary for governing this profession. We need to design a comprehensive exam that covers the core areas of computer science. Everyone must pass the exam to obtain a license, and the content of it should be regularly updated to ensure synchronization with industry progress and best practices. New computer scientists are required to complete a certain length of internship or mentor guided training. Also, all experts must complete a certain amount of work or projects every month to maintain their contribution and recognition. What's more, set clear professional ethics and codes of conduct, make sure that all licensees adhere to them. Feedback and complaint mechanisms can also be established to allow the public to provide advice on licensees. Finally, consider establishing specialized licenses or ethical standards for different subfields of computer science, such as artificial intelligence, network security. For example, AI designers must guarantee that their works do not have a negative impact on the outside world cause AI cannot be held responsible for its moral behavior in its current state. (Nevanperä, 2021) [1]

Thirdly, for the profession of computer science, act utilitarianism and rule utilitarianism cause

one to develop different guidelines. Act utilitarianism is the most direct form of utilitarianism. It advocates that a behavior is correct only when it brings at least as much overall happiness as any behavior that the actor can perform. (Eggleston, 2020) In other words, this method allows us to consider each specific situation and determine which approach can bring the greatest overall benefit. For example, if fighting can bring more happiness in specific situations, then behavioral utilitarianism will advocate fighting. Unlike behavioral utilitarianism, rule utilitarianism acknowledges that people will implement their actions as if they follow certain rules. (Bennett, 2015) It compares the benefits brought by certain persistent rules rather than individual actions. These rules are generally formulated based on long-term considerations, and they usually bring stable advantages. Once these rules are established, people should firmly adhere to them, even if violating them may bring more benefits in some particular situations. For example, some companies may establish a rule of not working overtime based on rule utilitarianism. In the long run, this rule is more in line with labor laws and may bring more overall benefits, even if sometimes overtime may bring more incomes.

Overall, I think that both act and rule utilitarianism are equally good at the task. Act utilitarianism considers every scenario, which may promote the development of regulations which can be flexibly adjusted according to specific situations and needs. This flexibility ensures that the solution adapts to constantly changing environments and conditions and is very practical and clear. However, overly flexible rules may lead to uncertainty in standards, which is not a good thing for the long-term development of computer science. Moreover, assessing the consequences of each possible action requires extensive calculation and prediction. This requires more time and effort for computer science, which is already complex and computationally intensive. For rule utilitarianism, stability and predictability are its biggest advantages, providing a fixed moral framework. This effectively avoids the need for complex consequence assessments every time ethical decisions are made. Once the rule is established, it can be simply followed without the need to reassess it every time. Also, there is still a lot of space for development in computer science in the future. Rule utilitarianism which encourages long-term benefits is very suitable for this profession. Relatively, rule utilitarianism can also have some negative impacts on this industry. Computer Science is rapidly developing and constantly changing, and fixed rules may appear too rigid and in order to cover as many possible scenarios as possible. A large number of rules may need to be created, which may lead to rules being too complex and difficult to follow. Take the scenario of software updates as an example. If an update can provide significant benefits to the majority of users, but may cause problems for a small number of users, act utilitarianism may support this update as it provides the greatest overall benefit. Rule utilitarianism will establish clear rules regarding software updates, such as that any updates that may affect the integrity of user data must undergo comprehensive testing. This rule may delay some beneficial updates, but it ensures data security for all users.

In conclusion, both utilitarianisms have their own advantages and disadvantages, we can combine them to draw up guidelines for computer science.

Reference:

[1] Nevanperä, M, Rajamäki, J & Helin, J 2021, 'Design Science Research and Designing Ethical Guidelines for the SHAPES AI Developers', *Procedia computer science*, vol. 192, pp. 2330–2339.

Bennett, C. (2015). What is this thing called Ethics? (2nd ed.). Routledge. https://doi.org/10.4324/9780203494189

Eggleston, B 2020, 'Consequentialism and Respect: Two Strategies for Justifying Act Utilitarianism', *Utilitas*, vol. 32, no. 1, pp. 1–18.