**Exercise 4**

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One use of Data Science is to assist a doctor with making medical diagnoses and patient treatment by drawing on a large database of known historical symptoms, diagnoses, and treatments, and using an algorithm to predict the diagnosis based on symptoms and medical history (Corea, 2021).

Supporting View:

1. Provides access to far more cases than a doctor would have access to without it
2. An algorithm can detect patterns that might be missed by a human
3. Assists a doctor in making a diagnosis more quickly, which is especially important in cases where early detection is important in saving a patient’s life
4. Such algorithms are usually more accurate than a doctor without access to such a tool
5. Ultimately, the doctor still makes the diagnosis, assisted by AI, i.e. doctors are not replaced by machines
6. These tools could be made available directly to patients. They more accessible than doctors. and encourage patents to be more proactive in their (and their family’s) health care.

Opposing View:

1. While such algorithms are not meant to replace doctors, doctors can become over reliant on them, so that in practice they have replaced the doctor in these cases
2. While AI algorithms are very accurate, they are not 100% accurate
3. If a doctor relies too heavily on AI for a diagnosis, who is liable if the algorithm is wrong and a patient dies?
4. If a doctor does not rely too heavily on AI, and makes a diagnosis different from what was made by the algorithm but is wrong and the patient dies, who is responsible?
5. In order to reduce medical expenses, insurance companies (or other types of companies) could provide access to such algorithms directly to patients, who are less qualified to use these tools, e.g. knowing what kinds of questions to ask/answer. Again the question of liability is relevant in this scenario as well.

References

Corea, F., & By. (2021, February 19). Ai ethics (1) machine ethics and artificial moral agents. Retrieved April 12, 2021, from https://www.customerinsightleader.com/others/ai-ethics-1/