0/17p

COMMON ASSESSMENT TASK
Level 2 Digital Technologies and   **Hangarau Matihiko 2025**   **Derived grade Exam**   **91898 Demonstrate understanding of a computer science concept**

2

Credits: Three

Achievement Criteria		
Achievement	**Achievement with Merit**	**Achievement with Excellence**
Demonstrate understanding of a computer science concept	Demonstrate in-depth understanding of a computer science concept	Demonstrate comprehensive understanding of a computer science concept

Type your School Code and 9-digit National Student Number (NSN) into the header at the top of this page. (If your NSN has 10 digits, omit the leading zero.)

You should aim to write 800–1500 words in total.

Your answers should be presented in 12pt Times New Roman font, within the expanding text boxes, and may only include information you produce during this assessment session. Internet access is not permitted.

By saving your work at the end of the examination, you are declaring that this work is your own. DTTA may sample your work to ensure this is the case.

INSTRUCTIONS
This paper contains questions on the topic of **ARTIFICIAL INTELLIGENCE** only   Read all the questions before you begin.   Do not repeat information in different parts of the assessment.

Artificial Intelligence

1.

AI tools are increasingly being used to create realistic social media content, such as text, images, video, and virtual influencers. This can have both positive and negative effects on individuals and communities.

a)
Describe how generative AI algorithms work in the context of social media content creation.

Answer:

Generative Ai Is used in many ways in social media, weather it is used in the background or used for an audience to see. Many people use ai to do harmless things like make an ai speak a sentence if they dont feel comfortable talking online, or get an ai to generate an original video which can turn out to be quite funny. Ai in social media definitely has its upsides and downsides, such as: when it is used to make funny content, direct people to content that they like and engage in more, or by giving people accessibility to make videos or posts that they otherwise wouldn't be able to make. but then it can also have downsides including: Deepfakes of people and things to mislead an audience, or impersonation to spread misinformation from someone that people have trust in.

141 words

Correct answer.   -/1p

b)
Explain how algorithmic manipulation or misinformation can occur through the use of these tools. In your answer, refer to a Computer Science concept such as machine learning, generative algorithms, or information systems. Use an example to illustrate your answer.

Answer:

Algorithmic manipulation or misinformation does occur in social media. Sometimes people can get pictures or videos to be generated of people such as politicians or other prominent people to say things that they haven't actually said using their voice with their face. Ai can create a voice with a sample of someone's voice, and depending on person to person, it can sound pretty realistic. This can cause audiences to be mislead and feel manipulated, which can give the 'Victim to Ai' a bad reputation.

84 words

Correct answer.   -/1p

2.

AI is increasingly used in modern vehicles to support driver assistance and autonomous systems. These include features like lane detection, automatic braking, collision avoidance, and pedestrian recognition. While these systems can improve road safety, they also present challenges linked to the reliability of data, algorithm design, and ethical implications.

a)

Describe how AI algorithms are used in car safety systems to interpret sensor data and make driving decisions. In your response, give an example of a specific feature (e.g. lane keeping, emergency braking, or pedestrian detection).

Answer:

When Ai is incorporated to car safety systems, it acts like a backup to the driver, as ai can react and decide much faster than a human can. When presented with a situation of a car suddenly slowing down or stopping ahead, the Ai is trained that when it detects that, it will slow the car down, or even stop the car to avoid a collision. As ai goes, it is trained better and better to the point where it can detect what is a car and what is not and all sorts. say for example a car was going around a sharp corner and the ai thought that it was about to crash into a wall, then the ai would slam on the brakes. if an ai is fed information on what is and what isnt a car or a wall on a turn, and also navigation info, then it will be able to give the driver a better experience without causing false alerts.

165 words

Correct answer.   -/1p

b)

Explain how errors or manipulation in AI-based decision-making can lead to unsafe or unintended outcomes. In your answer, refer to a Computer Science concept such as machine learning, sensor fusion, real-time processing, or information systems.

Answer:

If an Ai is fed false information, it can reciprocate those unwanted incorrect behaviours. this is why it is crucial that the Ai learns when something is wrong by basing it off of other knowledge it has and other knowledge that it can learn. if a car was told that if another car is pulling out in front of you and it didn't have to do anything, then the ai would take that and just crash or hit into the other car. if you gave it the same scenario and gave it the opportunity to learn from other sources, then just maybe it would find that slowing down when someone pulls out in front of you is the better way to keep the driving experience and driver safe.

128 words

Correct answer.   -/1p