**ASSIGNMENT SUBMITTED**

**BY**

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**LEVEL: HND I**

**COURSE CODE: AIT 311**

**COURSE TITLE: ARTIFICIAL INTELLIGENCE**

**ASSIGNMENT I**

**QUESTION1**

**5 Areas Ai can cause disruption**

**1. Agriculture**

i. AI-driven crop monitoring and disease detection

ii. Precision farming using AI and IoT

iii. Automated harvesting with AI-powered robotics

**2. Customer Service & HR**

i. AI chatbots handling customer queries

ii. AI-driven recruitment and resume screening

iii. Sentiment analysis for customer feedback

iv. Employee performance monitoring

**3. Education**

i. AI-powered personalized learning

ii. Automated grading and feedback

iii. Intelligent tutoring systems

iv. AI-driven content creation and curriculum design

**4. Healthcare:**

i. AI-powered diagnostics (e.g., detecting diseases from medical images)

ii. Personalized treatment plans using predictive analytics

iii. AI-driven drug discovery reducing time and cost

iv. Robotic surgery and AI-assisted medical procedures

**5. Transportation & Logistics**

i. Self-driving vehicles and autonomous drones

ii. AI-powered route optimization and delivery tracking

iii. Predictive maintenance for vehicles and infrastructure

iv. Smart traffic management to reduce congestion

**QUESTION 2.**

**Advantages of AI in 5 Areas**

**i. Weed and Pest Control**: AI powered robots and computer vision helps to identify and remove weed or pests, reducing the need for chemical pesticides.

**ii. Steady Availability:** AI powered chatbots and virtual assistants can handle inquiries anytime, improving accessibility.

**iii. Personalized Learning:** AI adapts to individual students needs, offering customized lessons and feedback based on their progress.

**iv. Early Disease Detection and Diagnosis:** AI powered tools can analyze medical images, lab results and patient data to detect diseases like cancer, heart conditions and neurological disorders earlier and more accurately.

**i. Autonomous Vehicles:** AI enables self driving cars and trucks reducing human error and enhancing road safety.

**QUESTION 3.**

**Disadvantages of AI in 5 Areas**

**i. Job Displacement:** AI automation can reduce the need for human labor, leading to unemployment among farm workers.

**ii. High Initial Cost**: Developing and maintaining AI-powered customer service systems can be expensive, especially for small businesses.

**iii. Lack of Human Interaction**: AI cannot replace the emotional support, motivation, and personal connection that human teachers provide.

**iv. Lack of Human Judgment:** AI lacks empathy and human intuition, which are essential in patient care and decision-making.

**v. Privacy Concerns:** AI systems often rely on collecting vast amounts of data, raising privacy issues regarding the collection, storage, and use of personal and location data.

**Question 4.**

**20 AI models**

1. GPT-4 (Generative Pretrained Transformer) – Language model (OpenAI)

2. BERT (Bidirectional Encoder Representations from Transformers) – NLP model (Google)

3. DALL·E 2 – Image generation model (OpenAI)

4. T5 (Text-to-Text Transfer Transformer) – NLP model (Google)

5. CLIP (Contrastive Language-Image Pretraining) – Vision-language model (OpenAI)

6. AlphaGo – Game-playing model (DeepMind)

7. ResNet (Residual Networks) – Image classification model (Microsoft)

8. YOLO (You Only Look Once) – Object detection model (Joseph Redmon)

9. VGGNet (Visual Geometry Group) – Image recognition model (University of Oxford)

10. Transformer – NLP model (Google)

11. BLOOM (BigScience Large Open-science Open-access Multilingual) – Multilingual model

12. GPT-3 (Generative Pretrained Transformer) – Language model (OpenAI)

13. Turing-NLG – Language model (Microsoft)

14. DeepMind’s AlphaFold – Protein folding prediction (DeepMind)

15. Siri – Virtual assistant AI (Apple)

16. Watson – AI for business and healthcare (IBM)

17. Fast.ai – Deep learning library (Jeremy Howard and Rachel Thomas)

18. Mistral – Large language model (Mistral AI)

19. GPT-Neo – Open-source transformer model (EleutherAI)

20. StyleGAN2 – Generative model for images (NVIDIA)