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Course code:ALT 313

Course title: Artificial intelligence

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QUESTIONS

(1)locate the disruption that Al will disrupt

(2)What advantage is AI bringing

(3)What is disadvantages of AI

ANSWER

(Question 1)

AI has the potential to disrupt various industries and aspects of our lives. Here are some examples:

(1)

HEALTHCARE:

AI is significantly disrupting healthcare in multiple ways, transforming everything from diagnostics to patient care and hospital management, let us look at

(a) Medical Diagnostics:

AI-powered imaging and pattern recognition systems can analyze medical scans (X-rays, MRIs, CT scans) with high accuracy, often detecting diseases like cancer, stroke, or fractures earlier than human doctors. Companies like DeepMind and IBM Watson have made breakthroughs in this space.

(b) Personalized Medicine:

AI can analyze a patient’s genetic makeup, lifestyle, and medical history to predict disease risks and recommend personalized treatment plans. This is especially useful in oncology and chronic disease management.

(c) Drug Discovery & Development:

AI accelerates drug discovery by analyzing chemical compounds, predicting their effects, and identifying potential candidates faster than traditional methods. For example, AI has helped in COVID-19 vaccine development by modeling virus structures.

(2)

FINANCE:

AI is transforming the finance industry by improving efficiency, reducing risks, and enhancing customer experiences. Here are some key ways AI is disrupting finance:

1. Fraud Detection & Risk Management

AI analyzes large volumes of transactions in real-time to detect fraudulent activities and prevent financial crimes. Machine learning models recognize unusual patterns and flag suspicious transactions faster than traditional methods.

2. Algorithmic Trading

AI-powered trading systems analyze market trends, historical data, and news sentiment to execute high-frequency trades with minimal human intervention. Hedge funds and investment firms use AI for better decision-making and portfolio management.

Personalized Banking & Customer Service

AI-driven chatbots and virtual assistants handle customer queries, process transactions, and provide financial advice 24/7. Banks use AI to offer personalized financial products based on spending habits and preferences.

(3)

EDUCATION

AI is revolutionizing education by personalizing learning experiences, automating administrative tasks, and enhancing accessibility.

AI-powered platforms adapt to students’ learning styles, pace, and strengths, providing customized content and recommendations. Tools like Duolingo and Khan Academy use AI to tailor lessons based on student performance.

We have AI-driven tutors provide real-time feedback, answer questions, and help students grasp difficult concepts outside the classroom. Examples include Carnegie Learning’s AI tutor and Squirrel AI.

AI also automates grading for multiple-choice and even some written assignments, reducing teachers’ workload and providing instant feedback to students. Platforms like Gradescope use AI to assist with grading complex assignments.

(4)

MEDIA AND ENTERTAINMENT

AI is transforming the media and entertainment industry by enhancing content creation, personalization, and distribution. Here are some key ways AI is disrupting the space:

(a) Personalized Content Recommendations:

AI analyzes user behavior, preferences, and viewing history to suggest personalized content on platforms like Netflix, Spotify, and YouTube. This increases engagement and retention.

(b)AI-Generated Content

AI creates articles, music, videos, and even deepfake technology. Tools like ChatGPT, OpenAI’s DALL·E, and AIVA (AI music composition) generate content, reducing production time and costs.

(c) Automated Video & Image Editing

AI-powered tools like Adobe Sensei and Runway ML automate editing, color correction, and special effects, making media production more efficient.

(5)

TRANSPORTATION

AI is revolutionizing transportation by improving safety, efficiency, and automation. Here are some key ways AI is disrupting the industry:

1. Autonomous Vehicles (Self-Driving Cars & Trucks)

AI-powered systems enable self-driving cars, trucks, and buses to navigate roads, recognize obstacles, and make driving decisions. Companies like Tesla, Waymo, and Cruise are leading this transformation. Autonomous vehicles promise to reduce accidents, lower transportation costs, and improve traffic flow.

2. AI in Traffic Management & Optimization

AI analyzes real-time traffic data to optimize traffic signals, reduce congestion, and improve road safety. Cities use AI-powered systems to predict traffic patterns and suggest alternate routes through apps like Google Maps and W

3. AI in Public Transportation

AI helps optimize bus and train schedules based on passenger demand and real-time conditions. Some cities use AI to improve route planning, reduce delays, and enhance commuter experiences.

4. Predictive Maintenance for Vehicles & Infrastructure

AI detects potential issues in vehicles, roads, and railways before they become major problems. This reduces downtime, lowers maintenance costs, and improves safety in airlines, trucking, and rail systems.

(ANSWER)

Question 2

ADVANTAGES

(1)Al helps in cost saving

(2)Al help in providing 247 customer service

(3)Al enhances digital assistance making virtual assistants smarter, efficient, and more user friendly.

(4)Al helps in cost reduction

(5)Al helps in faster and a more accurate decision making.

DISADVANTAGES

(1)Al can lead to job losses

(2)Al lacks emotional intelligence and cannot fully understand man feelings or Ethics.

(3)Al causes job displacement and unemployment

(4)High implementation cost

Al may lead to decline in empathy and emotional intelligence.