**AI**

**Artificial intelligence** (AI), sometimes called **machine intelligence**, is intelligence 1)**demonstrated** bymachines, in 2)**contrast** to the natural intelligence displayed by humans and other animals. In computer science AI research is defined as the study of "intelligent agents": any device that 3)**perceives** its environment and takes actions that 4)**maximize** its chance of successfully achieving its goals. Colloquially, the term "artificial intelligence" is 5)**applied** when a machine mimics "cognitive" functions that humans 6)**associate** with other human minds, such as "learning" and "problem solving". Although artificial intelligence evokes thoughts of science fiction, artificial intelligence already has many uses today, for example:

¬ Email services use artificial intelligence to filter 7)**incoming** emails. Users can 8)**train** their spam filters by marking emails as “spam”.

¬ Online services use artificial intelligence to 9)**personalize** your experience. Services, like Amazon or Netflix, “learn” from your 10)**previous** purchases and the purchases of other users in order to 11)**recommend** relevant content for you.

¬ Banks use artificial intelligence to determine if there is strange activity on your account. Unexpected activity, such as for eign transactions, could be 12)**flagged** by the algorithm.

¬ Applications use artificial intelligence to 13)**optimize** speech recognition functions. Examples include intelligent personal assistants, e.g. Amazon’s “Alexa” or Apple’s “Siri”.

**Machine learning** uses statistical techniques to give computer systems the ability to "learn" (e.g ., 1)**progressively** improve performance on a specific task) from data, without being 2)**explicitly** programmed. Machine learning algorithms are often 3) **categorised** as supervised or unsupervised. Supervised algorithms 4)**require** a data scientist or data analyst with machine learning skills to 5)**provide** both input and desired output, in addition to furnishing feedback about the 6)**accuracy** of predictions during algorithm training. Unsupervised learning algorithms (also called **neural networks**) do not need to be trained with desired outcome data. Instead, they use an iterative approach called **deep learning** to review data and 7)**arrive** at conclusions.

**Deep learning** is an aspect of artificial intelligence (AI) that is concerned with 8)**emulating** the learning approach that human beings use to **gain** certain types of knowledge. While traditional machine learning algorithms are linear, deep learning algorithms are 9)**stacked** in a hierarchy of 10)**increasing** complexity and abstraction. To understand deep learning, imagine a toddler whose first word is dog. The toddler learns what a dog is (and is not) by pointing at objects and saying the word dog. The parent says, "Yes, that is a dog," or, "No, that is not a dog." As the toddler continues to point at objects, he becomes more aware of the 11)**features** that all dogs possess. What the toddler does is 12)**clarify** a complex abstraction (the concept of dog) by building a hierarchy in which each level of abstraction is created with knowledge that was gained from the 13)**preceding** layer of the hierarchy

**Destroy without regret** – annhilate without a qualm

**evil –** malevolent

**go mad and violent –** go berserk

**give a response/respond –** marshal a responce

**impossible to avoid –** inevitable

**difference –** divergence

**protect –** safeguard

**make an effort –** take pains to do sth

**improbable –** far-fetched

**fields of knowledge –** domains

1. **What is the difference between death by famine or death by sci-fi?**

Death by famine is horrible, whereas death by sci-fi is cool.

1. **What’s the problem with people’s attitude to building AI?**

they fail to marshal an appropriate emotional responce.

1. **How likely is it that people will stop developing technology?**

very unlikely

1. **What will happen eventually?**

we’ll build machines which are smarter than us and they willbe able to improve themselves

1. **What’s the intelligence explosion? How will this process be different?**

machines wouldn’t need us and we wouldn’t have influence on them

1. **How could we be similar to ants one day?**

if our goals and the goals of AI different, they could destroy us the way we destroy ants

1. **What’s intelligence?**

a matter of information processing n the physical systems and ability to think flexibly across multiple domains

1. **How is lack of work and intellectual effort dangerous for us?**

we’ll be able to play Frisbee and give each other messages. The downside is wealth inequality and unemployment that’s never been seen before. Most of the world will starve

1. **What would the Russians and the Chinese do?**

russians and chinese would try to build similar machines to stay ahead of the competition and be able to wage war.

1. **What’s the problem with the argument about time?**

we don’t know when we’ll be able to build AI in safe conditions

Ex. 5

1. **What will the apocalypse look like?**

the apocalypse wil be software denying us access to our accounts, loans, and taking control over our lives.

1. **What controversy has been sparked by the software used by the police?**

it’s allegedly more likely to predict African American defendants to engage in criminal activity in the future

1. **What is the ‘white guy’ problem in AI?**

the software relied too heavily on photos of white people, diminishing its ability to accurately identify images of people with different features.

1. **What are the limitations of e.g. Facebook algorithms?**

stories were prioritized based on popularity, not veracity

1. **What is the ‘Russian tank’ problem?**

it’s hard to predict what kind of data one has to feed an algorithm in order to produce accurate results.

1. **How was the software prepared by Xiaolin Wu and Xi Zhang trained?**

it was given a dataset of 1856 photons of faces of criminals and non-criminals and after analyzing 90% of them was able to identify criminals in at least 10%.

1. **What sort of controversy has the project based on analysing the facial features of criminals caused?**

it could contribute to reinforcing the existing biases

1. **What point does Blaise Aguera y Arcas make about the alleged lack of bias of the algorithm in question?**

it can’t be free of prejudice as the data is fed comes from a system that is faulty and riddled with bias.

1. **What could be a better use for Xiaolin Wu’s and Xi Zhang’s algorithm?**

it could be used to study biases based on appearance existing in criminal justice system.

1. **What does the old programmer’s saying ‘Garbage in, garbage out’ mean?**if you feed your software wrong information, you are going to get wrong information.

**Synonyms:**

**ruthlessly = relentlessly  
put in chains = enslave  
have atendency = prone to  
decreasing = diminishing  
often told = oft-related  
important=relevant  
trying to = in an attempt to  
careless = reckless  
essential = crucial  
confirm = validate  
not enough=insufficient**

**Ex.7**

infer=conclude  
assessing=grading  
reinforcing=making stronger  
biases=prejudice  
reliance on=dependence on  
spate=rush/outpouring  
inundating=overwhelming/flooding  
veracity= truthfulness/accuracy  
weed out = get rid of/eliminate