Lesson 1 A Brief History of Artificial Intelligence

Scene lead-in

The opening of Amazon Go has flooded the Moments. Customers will shop on Amazon Go after downloading the Amazon Go App and connecting their debit card with the app. During shopping, a product will be shown on the Amazon Go App if chosen from the shelf, and will automatically be canceled if put back on the shelf. When you have selected your items and are ready to leave, the payment of the order will be automatically completed in the app. With benefits brought by the new science and technology of artificial intelligence, users' behaviors can be accurately identified by a large number of cameras or even microphones, which is a great step for us to enter an intelligent life.

Have you thought about the concepts and principles implied in artificial intelligence technology while you are expressing the great convenience that Amazon Go brings to life?

Knowledge Contest

Artificial Intelligence in Life

Requirements: observe and share scenarios where artificial intelligence is applied in life

Proportion of score of contest:

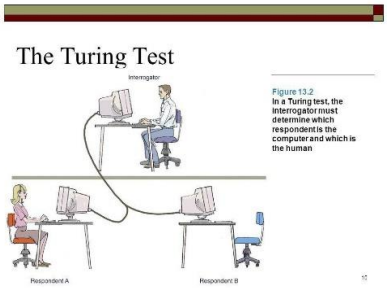
(1) Describe the scenarios where artificial intelligence is applied in detail (50%)

(2) Be able to flexibly expand based on current knowledge (40%)

(3) Speak clearly and fluently (10%)

Section 1: Birth of Artificial Intelligence

In 1950, Alan Mathison Turing proposed the famous Turing test in his thesis, *Computing Machinery and Intelligence*;



In 1951, Marvin Lee Minsky established the world's first neural network machine, SNARC;
In 1956, Marvin Lee Minsky, Claude Elwood Shannon and Nathaniel Rochester first proposed the concept of "artificial intelligence" in the conference organized by Dartmouth College and described it as: "it will enable robots to understand, think and learn like humans and simulate human intelligence using computers." This historic conference has marked the real birth of the artificial intelligence discipline.

Please write down your answers based on group discussion on the definition of AI.

Section 2: Definition of Artificial intelligence

Please write down your answers based on group discussion on the definition of AI.

The definition of artificial Intelligence is_____, and its core capability is to make judgment or forecast based on the given input. For example:

_____, recognize a person according to picture input;
_____, analyze contents according to the sound signals of a speaker;
_____, infer the reasons and natures of diseases according to the input of medical images;
_____, predict the win rate of some move of chess according to the current situation;
_____, determine the user's product preferences according to the previous purchasing records so as to make corresponding recommendations;

Section 3: intelligent manufacturing, an approach to Industry 4.0

The research on intelligent manufacturing has gone through three stages: first, the application of artificial intelligence in the manufacturing industry and the formal proposition of the concept of intelligent manufacturing in the 1980s; the introduction of intelligent manufacturing technology and systems in the 1990s; and the maturity of intelligent manufacturing based on information technology in the 21st century.
Intelligent manufacturing integrates a new generation of information technologies (such as the Internet of Things, big data and cloud computing) with current automation technology, sensor technology, control technology and digital manufacturing technology. Also, it allows real-time management in plants and enterprises, between enterprises and of the life cycle of products, as well as the optimization of new manufacturing systems. Meanwhile, intelligent manufacturing has been embodied in various industries.

(1) Security and Protection

With the enhancement of people's legal awareness, surveillance cameras have basically been equipped in various locations. After the introduction of artificial intelligence technology, the surveillance camera system will incessantly monitor any abnormal conditions shown in the video images and notify the security or the police in time, which is an accurate, efficient and timely way to effectively reduce accidents and losses. For example:

- Real-time monitoring of pedestrians and vehicles in videos
- Identification of abnormal behaviors and raising of timely alarm
- Automatic determination of crowd density and flow direction and identification of the potential hazards

(2) Medical Treatment

Medical expert systems will effectively resolve the social conflict of unbalanced allocation of medical resources. After sorting, organizing the knowledge of experts, problem-solving methods, experience and knacks in medical field and saving them, the intelligent computer can provide the consultation and advice by following the thinking process of medical experts to effectively assist the doctors in decision-making. For example:

- Automatic analysis technology of medical images
- Constructing three-dimensional models of human organs

- Providing health advice and medical risk warning

(3) Intelligent Services

Do the recommendations of music apps, webpages, news and others meet your taste? Artificial intelligence will sort, analyze your preferences, automatically select relevant recommendations suitable for you and improve customer loyalty. For example:

- Text feature collection
- Text recognition technology
- Preference analysis based on historical search record

(4) Automatic Pilot

Autonomous vehicles are of great strategic significance in improving transportation safety, achieving energy conservation and emission reduction, eliminating congestion and promoting social efficiency. With the assistance provided by maps and indicators and comprehensive analysis of multiple perception signals, driving routes can be planned in real time to control the operation of the vehicle.

- Map
- Primary route planning

- Human-computer interaction - enforcement mechanism

4.5 Industrial Manufacturing

With the development and progress of intelligent technology, there will be a large number of industrial intelligent robots working on the assembly line to predict production link risk and reduce material waste and energy consumption. One example would be the automatic detection of product defects by artificial intelligence visual tools instead of visual inspection, to allow for intelligent, unmanned operation of manufacturing inspections, as well as the advance detection (perception) by industrial robots of abnormalities to effectively prevent losses and influence caused by mechanical failure.

Exchange and Share

With the development of science and technology, artificial intelligence is stepping into and changing our daily life increasingly. Think about what changes the artificial intelligence has brought to our lives. Will the future "artificial intelligence" serve and go beyond the humans?

Comprehensive evaluation

Evaluation method	Evaluation link	Evaluation content	Evaluation criteria		
			3 Excellent	2 Good	1 General
Self-evaluation	Scenario Introduction	Understand and illustrate the living examples regarding the application of AI in life based on the case of Amazon Go.			
	Requirement of the Class	Understand the birth and development history of artificial intelligence Understand the application and cases of artificial intelligence in life Understand the core of artificial intelligence Further understand the importance of robotic arms in artificial intelligence			
	Participation in Class	Express yourself actively Actively participate in class discussions and undertake individual and group tasks			

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Et toujours la possibilité d'établir des devis, de commander et de suivre vos commandes/factures en ligne.