**BÀI TẬP 1 AI**

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1. ***There are different interpretations of AI in different contexts. Please elaborate on the AI in your eyes.***

Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. AI is an interdisciplinary science with multiple approaches, but advancements in machine learning and deep learning are creating a paradigm shift in virtually every sector of the tech industry.

Artificial intelligence allows machines to model, and even improve upon, the capabilities of the human mind. From the development of self-driving cars to the proliferation of smart assistants like Siri and Alexa, AI is a growing part of everyday life. As a result, many tech companies across various industries are investing in artificially intelligent technologies.

1. ***AI, machine learning and deep learning are three concepts often mentioned together. What is the relationship between them? What are the similarities and differences between the three terms?***

It’s important to understand the distinction between the various terms, as they are now becoming more and more commonplace, as well as ubiquitous in our tech-driven working and personal lives. One of the most easy-to-remember differences is the kind of data a model consumes. If the model takes data where the cause and effect relationship is clearly defined, it is a machine learning model. If it takes unlabeled data and learns from itself while finding hidden patterns in the data, it is deep learning. The fields of machine learning and deep learning are contained within AI as a whole by definition. Between machine learning and deep learning, the former contains the latter as it expands upon ML techniques. The specific terms are used for specific instances wherein certain characteristics of AI make themselves visible. While it is right to refer to both ML and DL as AI, it is wrong to use ML and DL instead of AI.

1. ***After reading the AI application scenarios in this chapter, please describe in detail a filed of AI application and its scenarios in real life based on your own life experience.***

Based on my own life experience, I see Ai being applied in many different fields such as entertainment, economy, health, ... and most recently, social networks. AI can use data from social media audiences to generate revenues. The following are AI applications in the Social Media sector.

* Instagram: Instagram utilizes big data and artificial intelligence to achieve its goals. This medial social platform uses for targeting advertisements, combatting cyberbullying, and removing abusive comments.
* Twitter: Twitter uses AI technology for product improvement, tweets recommendations, and restricts racist comments. It uses an [artificial neural network](https://www.guru99.com/artificial-neural-network-tutorial.html) to learn about users’ preferences over time as it rapidly processes a large amount of data.
* Facebook: Facebook uses AI-based, Deep text technology for language conversion. That allows Facebook to better interpret discussions utilizing this technology. It can be used to translate postings from multiple languages automatically.

1. ***Which chip is for deep neural networks and Ascend AI processors? Please brief these four major modules.***

The chip for deep neural networks and Ascend AI processors is Ascend AI chips**, for example, Huawei Ascend 910 AI Processor.**

The neural network software flow of Ascend AI processors is a bridge between the deep learning framework and Ascend AI chips. It realizes and executes a neural network application and integrates the following functional modules.

* ***Process orchestrator***: implements the neural network on Ascend AI chips, coordinates the whole process of effecting the neural network, and controls the loading and execution of offline models.
* ***Digital vision pre-processing (DVPP) module***: performs data processing and cleaning before input to meet format requirements for computing.
* ***Tensor boosting engine (TBE)****:* functions as a neural network operator factory that provides powerful computing operators for neural network models.
* ***Framework manager****:* builds an original neural network model into a form supported by Ascend AI chips, and integrates the new model into Ascend AI chips to ensure efficient running of the neural network.

1. ***Based on your current knowledge and understanding, please elaborate on the development trend of AI in the future in your view.***

Artificial intelligence (AI) is advancing at an increasingly rapid pace. New technological applications and systems are currently being used to simulate, extend, and expand human intelligence. With the continued development of AI science and the deepening of the simulation of human consciousness and thinking information processes, AI has received ever-growing attention in various fields. It is gradually being applied to industries such as robotics, medical treatment, manufacturing, environmental protection, and network construction. Furthermore, with the ever-growing development of science and technology, AI applications will continue to emerge in more and more aspects of dailylife.

* Transportation: Autonomous cars…
* Manufacturing: AI powered robots work alongside humans to perform a limited range of tasks like assembly and stacking, and predictive analysis sensors keep equipment running smoothly.
* Healthcare: diseases are more quickly and accurately diagnosed, drug discovery is sped up and streamlined, virtual nursing assistants monitor patients and big data analysis helps to create a more personalized patient experience…
* Education: Textbooks are digitized with the help of AI, early-stage virtual tutors assist human instructors and facial analysis gauges the emotions of students…
* Customer Service: Google is working on an AI assistant that can place human-like calls to make appointments…