The innovation and use of Artificial Neural Networks in daily life

Introduction

Since the first mechanical computer was created by Charles Babbage in 1822, a number of researchers have attempted to enable computers to learn new things by themselves. Inspired by the biological neural networks that constitute human brains, researchers have established a computing system called artificial neural network which can study from examples on its own. This article will describe the composition of an artificial neural network and explain how to apply it in daily life. Finally, it will evaluate both advantages and disadvantages of this computing system.

Description

An artificial neural network has three layers named input layer, hidden layer and output layer respectively. An input layer consists of many artificial neurons which record input data obtaining from input examples. Then one or two hidden layers extract specific data from input layer and compute it by specially appointed functions. Afterwards, this data will be further processed by the output layer and form a label of what these input examples are. Finally, after learning thousands of examples, this system will know a new thing by itself.

Application

- Speech recognition
- Driverless cars
- Intelligent robots

- Medical Diagnosis

Evaluation

- Advantages: Artificial neural networks can make computers more intelligent and emancipate people from repetitive work.
- Disadvantages: A large number of people will face unemployment and ethical issues will probably appear all over the world.

Word count: 237 words

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