1. Artificial Intelligence

Artificial intelligence if complex in nature. Complex programming helps AI replicate the cognitive abilities of human beings. AI today is narrow AI that is designed to perform a narrow task. The long-term goal of the many researchers is to create general AI.

While narrow AI may outperform people at specific task, general AI would outperform people at all cognitive tasks.

AI helps us in reducing the chance of error an increasing accuracy. It is applied in studies, such as exploration of space. Computed methods of automated reasoning, learning and perception have become a common for us. We have Siri or Cortana in our smartphones. We also make a long way by GPS.

How can AI be dangerous?

Most researchers agree that there is no reason to expect AI to become intentionally benevolent or malevolent. Instead when considering how AI might become a risk, experts think two scenarios most likely:

1. The AI is programmed for peaceful things, but it choose destructive method. This happen whenever we fail to fully align AI`s goals with ours, which if really hard.
2. The AI is programmed as autonomous weapon. In hands of the wrong people this weapons could easily cause mass casualties. Moreover, the AI weapon race could lead to an AI wars.

As these examples illustrate, the concern about advanced AI isn`t malevolence but competence. A super AI will be extremely good in achieving its goals, and if those goals aren`t aligned with ours, we have a problem.

1. 3D printing

3D printing is becoming more and more popular. We are now able to print things such as clothing, prostatic limbs, musical instruments and prototype cars.

Some scientists are trying to create a 3D printer for food. They hope that having a 3D printer in the kitchen will become commonplace. Scientists say that they are easy to use: you simply have to select a recipe and put raw food inks into the printer. You can also modify the instructions.

Using 3D printers to create your meals would also be saving the environment. There would be less need for traditional growing, transporting and packaging.

Printing food help people who suffer from dysphasia. They could print softer versions of their favorite food.

However some people think that future of 3D printing food would be a disaster. It could take away many jobs. Likewise traditional cafés and restaurants might lose business. Also there are concerns about the nutritional value of printed food.

What`s more, cooking and eating with family and friends has long been a traditional and enjoyable activity. It`s hard to imagine world without it.

1. Virtual reality

A new app will allow you to get a new exp in virtual reality.

Dr. Llyr is a computer scientist but he draws his inspiration from the natural sciences.

His latest app is called Ocean Rift and it is the latest in a long line of animations which have been influenced by science. Llyr believes his app takes realism to a new level. In Ocean Rift the animals are not animated, it actually swims around you, moves it`s tails, opens in`s mouth.

CHALLENGES

Modelling the unique behavior of each animal was hard. Small animals swim past you, but larger ones look at you and you can see their eyes move around. For Llyr the dolphin was the most challenging creature.

The mobile format also presented a challenge. Ocean Rift has been released for Samsung`s Gear VR, the virtual reality headset for smartphones. Without the processing power and cooling systems of powerful desktop computers the app needed optimization to make a mobile version possible.

NEW HABITATS

Samsung are releasing the Gear VR Innovator Edition in December and Llyr is already working on the next edition. “It`s divided into habitats, the dolphin habitat, whale one and so and I will be adding more habitats”. Said Llyr. And because he has done the hard work of making it work on a smartphone, when he transfers it back for bigger devices in can be more elaborate.

1. History of communication systems

The history of communication systems is an important part of the larger history of communication. Early communications included smoke signals and drums.

In 1782 Claude Chapple built the first visual telegraph between Lille and Paris. However, semaphore, as a communication system suffered from the need for skilled operators and expensive towers often.

The first commercial electrical telegraph was constructed in England by Sir Charles Wheastone and Sir William Fothergill Cooke. The first successful transatlantic telegraph cable was completed in the 1866.

The conventional telephone was invented by Alexander Bell in 1876. The first commercial telephone services were setup in 1879 on both sides of the Atlantic. The technology grew quickly.

In December 1901 Guilelmo Marconi established wireless communication between Britain and the US.

In 1925 John Logie Baird publicly demonstrated the first transmission of moving pictures at the London department store Selfrigers. His first devices became known as the mechanical television.

Most 20th century TV sets were powered by a cathode-ray tube, invented by Karl Brawn. Baird switched from mechanical TV and became a pioneer of color TV using the cathode-ray tubes.

In 1940 George Stiblitz was able to transmit problems using teletype to his Complex Number Computer in New-York and to receive results back at Dart-Mouth College in New Hampshire. In 1971 RFC 791 introduced the IPv4 and RFC 793 introduced TCP. Thus created TCP/IP protocol. That used until now.

5. History of radio

Within the history of radio, several people were involved in the invention of radio. Radio was developed along with two other key inventions, the telegraph and the telephone. For a long time people disputed who invented the radio.

The history of radio begins perhaps with Joseph Henry who discovered in 1842 that electrical discharges were oscillating. Then James Maxwell showed that all electrical and magnetic phenomena could be reduced to stresses and motions in the medium, which he called the ether. Maxwell put forward his theory that the velocity of electric waves in air should be equal to the velocity of light waves. Both of them were the same kind of waves and differed only in wave length.

In 1878, David Hughes found that a loose contact in a circuit containing a battery and a telephone receiver would give rise to sounds in the receiver which corresponded to the sounds that hit the diaphragm of the mouthpiece. The scientist used his apparatus to transmit over a few hundred yards.

Heinrich Hertz was the first who created, detected and measured electromagnetic waves. He experimentally confirmed Maxwell’s theory. However, he only demonstrated that radiation from radio had all the properties of waves.

In 1895 A.S. Popov demonstrated the first radio. He became the inventor of the radio, and May 7 is celebrated each year as ‘Radio Day’ in the Russian Federation. The term “radio” now means the radiation of waves by transmitting stations, their propagation through space and reception by receiving stations. The radio technique has become closely associated with many other spheres of science and engineering.

1. A. S. Popov

Alexander Stepanovich Popov was born on March 16, 1859 in the Northern Urals. In November 1883, he graduated from the University. In the summer he take a position as a teacher and head of the physics office in the Mine officers class in Kronstadt. In December 1890, Popov also started work of a teacher of physics and electrical engineering at the technical school of the Maritime Department.

Conducting numerous studies in the field of electrical engineering and magnetism, the scientist came to the conclusion that electromagnetic waves can be used to wireless communication. This idea was repeatedly expressed by him at scientific speeches, and on May 7, 1895 at a meeting of the Russian physical and chemical society, Alexander Popov demonstrated world's first radio receiver created by him. This day went down in the history of world science as the birthday of radio.

10 months later, Popov transmitted the world's first radio message at a distance of 250 meters. A year later, he was able to increase the distance to 5 kilometers. In 1900, the scientist carried out communication at a distance of more than 45 kilometers during the rescue operation of the battleship «General-Admiral Apraksin”.

The successful use of the wireless communication was the impetus for the introduction of wireless telegraphy on combat ships.

Alexander Stepanovich Popov invented not only the world's first radio receiver. He formulated the basic principles of radio communication, developed the idea of amplifying weak signals using relays. The authorship of Popov belongs to the receiving antenna and grounding, the first marching army and civilian radio stations.

The works of the inventor were highly appreciated not only at home, but also abroad: in 1900, at the world exhibition in Paris, Popov's radio was awarded a Large gold medal.