THE IMAGINATION OF MACHINES

Possibly, one of the most famous criticisms that old sci-fi movies usually that a machine, no matter how advance they go, will never be human. It will never have a consciousness or in a more simpler expectation, an imagination. It is believed that imagination of an individual is one of the most basic elements of a sentience.

Google maybe has worked towards the initial stages of developing an imagination for the computers, the deep dream. What google has accomplished here, is for computers to create and recreate images of it's own liking, without much human interaction. The concept might not be explained well without an example. Let's take a picture, now notice the individual details for the said picture. Maybe the colours of the corners and shapes, now let's take the shapes, the depth, the sharpness, the brightness and take notice of details you could think of to the most basic of approach of recognition. What the application does make its own alterations to those pictures with a reference picture. Some minor details that the application recognised from the picture, take its most ignorant yet important element of the picture. But this won't make sense explaining in a few sentences, so let us take an example. Let's head back to our picture. Notice the colors, we can possibly divide them into three components, RGB, Black and White, and depth of shades. These three details will be saved in three specific neurons. Which add up to make the color neuron. Now let us take the RGB assigned neuron, and that can noticeably ne divided into three more neurons, Red, Green and Blue obviously. But it does not end there. There are components for the Red color itself, like the Hex code and lot more, specific components that is ignored by the human eye but digitally holds a huge value to recognize for a computer. Details that as humans we definitely ignore. When was the last time you tried to analyse the depth of shade of the red color in some picture? We don't, we have the understanding that the color we see in front of us is Red. We don't really have to separate the components to realize what we are looking at. So neurons taken in one image by analysing its separate components. What is the next step? Now the application finds a similarity of the first picture to the reference picture by comparing the neurons that matches from the two pictures. Could be the colour, maybe the texture or maybe some shape and its components that could match. Basically the neurons play among themselves and try to recreate an image by making interchanges of combinations of those details, those neurons and create an entirely of a new image of its own. This sounds petty and small to almost all of us, but this is the first basic and

ignorant yet important detail to be worked on to one day successfully call the stage “imagination”. Now the wonderful aspect of this is, the imagination a computer has, is not limited to image creation. Components of every basic form of art we humans recognize can be created by a computer. Songs, movies and even video games can be created by the race of computers. Maybe the next generation of DJ’s can be a macbook connected to a speaker and playing it’s own genre. It's not all bad, this is quite frankly one of the biggest accomplishments we have ever made as with this we are a step closer to make our own sentient being. The closest humanity can get to the feat of god, at least till as much as our understandings take us.

There are some really good applications of this technology. The ending result tries to mimic the human brain as much as it can, maybe not a hundred percent but maybe a eighty will do just fine. This technology can probably be used to replace certain parts of the human brain, as a prosthetic. Neuromorphic engineering was created on the basic principles of a neural network, and with machine learning of this extent, there is a lot to look forward to in the future. The combined intelligence of human and computers in the near future could lead to a harmonious world, a step closer to utopia. A lot of diseases, global warming, exploration of our world and beyond. All this can be achieved. Our imagination is unlimited but not always analytic, the imagination of machines might be limited, but are analytic to levels we cannot comprehend, and isn’t that what we really need? A Sonny in the world, and not doubt it and limit it like the other NS-5’s? Of course, hollywood tends to differ this opinion and mostly mean otherwise. But what needs to be appreciated is, humans are probably the most stubborn of living beings in the universe, we see a challenge, we want to overcome it. So the robot uprising isn’t something everyone should be afraid of in this case.

So what is next? What else can we explore in the world of technology, this virtual reality we all are studying and working towards with utmost dedication. Machines with emotion, a sense of humour, a reason to maybe cry? Discrimination? Will the imagination vary for different machines like us humans? What about the three laws of robotics? Does that apply here? Safeguards? It’s easier to dream the bad part of the future here. But not every Artificial Intelligence turns out to be Ultron. All this sounds fictional, but until a few years ago, who would have thought of machines having a sense of imagination? Arthur C Clarke, most notably known for Clarke’s three laws, one of those were quoted really at point, “Any sufficiently advanced technology is indistinguishable from magic”.

What happens to us? Do we outlive our usefulness? Imagination was one of the strongest abilities humanity had. Art is till date the best way to represent this imagination, but computers taking over at this field as well does bring up the question a lot. “Is it safe for the future of humanity?” Will be a question in the minds of many, but it is the inevitable. As a species of intelligence, all humanity can do is work and explore

and develop the world of technology and in theory create our own species of intelligence. The whole universe is ours to take, we can share it with the machines. Will the machines be as adaptive as humans? Probably not on their own. The beauty of he human physiology is the adaptation properties through exercise. Artificial Intelligence don’t necessarily have to be in a humanoid form, that is reserved for us. So they can run their way but it is a long way to go. Probably what comes in whatever future which is in store for us all, Maybe, it is going to be the best for us all.