Problem statement

Norway becomes world's first country to switch off FM radio as announced on April 16 2015. Like the television switchover in 2012, the radio switch will see a change in the source from an analogue platform (AM and FM) to a digital one.

Second problem is with advertisement companies.

Solution

In this situation, there can be a system which does replace most of the todays social network and radio station where anyone can broadcast its own radio channel but with the twist of machine learning.

As there is stupendous amount of unclassified and unprocessed audio and visual data we can build our system to process it and give them some meaning, in this way it might give rise to accurate advertisement and deliver entertainment which can be extended by location or community based advertisement of events with the help of gps technologies.

We can also train the system using deep learning and neural network and ask them to generate new set of texts, audio video and image from scratch. Also, radio channel can be customised based on mood, location and analysing text messages via instant messenger of the system. Results in the complete tracking of the unique user and based on certain algorithm it will suggest advertisement or jobs alert, fraud detection with the help of a centralised system.

Challenges and difficulties

Privacy concern

Writing Sentences About Images

Classifying images using neural network with two technique

Convolutional neural network: is more adaptive to the visual mechanism of humans and therefore very suitable for processing and classifying images

Recurrent Neural Network: as sentences are not the one thing but sequence of word therefore they can be created by recurrent neural networks

In this way, we have images as in input and sentences as an output

Writing text and generating audio

With ANN we usually have one to one relationship between input and output but with recurrent neural network we have one to many relationship between input and output therefore the input will be a single image but the output will be a sequence of word for example sentiment analysis. Recurrent Neural Network can also do many to many relation for example machine translation

In this way, it can get trained by from George R. R. Martin and write Game of Thrones season 7. Or play music that was never heard before.

Image Synthesis from Text with Deep Learning

Stage1

Generative Adversarial Network

First is generative neural network: Creates millions of new images and improve its GAN based on feedback

Second is Discriminator neural network: Judges reality of images and gets better and tell real images from fake

Stage2

Takes rough low resolution image along with text description which will correct the defect of the output creating higher resolution image

Hallucinating Images and video with Deep Learning

using unsupervised learning on this unlabelled data based on generative adversarial network and taking sentence as input and generate new image or video as output

Zero short learning: Zero training samples

One short learning: A class of technique that can learn something from one or more examples

genetic algorithm, broadcasting channel, etc