

Critical Review

A seminar was presented by Professor Francesc Alias i Pujol on the topic of 'Audio Signal Processing for Dynamic Noise Mapping in Smart Cities.' In the seminar he went about explaining about how audio signal processing is done, what are the main sources of noise in a city environment. WASN based noise monitoring is used by the research group and Dynamic Acoustic mapping is developed according to that.

The presentation starts with the introduction to different kinds of frequencies that are normally audible to a healthy human being, the decibel levels that effect human health. The different ways in which noise levels are measured were discussed. The second topic in the presentation was on Audio signal processing in which the different kinds of noises and their behaviour were discussed. Nowadays, machine learning is now being used to identify and segregate different kinds of noise. The working of human ear was shown and it was mentioned that how its working principle was now being used as a model to analyse different kinds of noises. As a part of environmental noise it was shown how Traffic noise is the biggest problem. Maps are created according to the amount of noise generated in each part of the city. This is done to understand which parts of the city is most affected by noise. This is now being done in real time using Internet of Things and similar technologies. This is termed as Dynamic Noise Mapping. The problem with this approach is that a lot of noises that are random also get recorded. They need to be filtered out. The instances when these random noises occur, are known as anomalous noise events. They are filtered out. These technologies are now being tested out in Rome and Milan.

The depth and detail of the presentation obviously shows the expertise of Professor Francesc Alias i Pujol in this subject. The presentation when seen from the perspective of a person who is not from the same field of study as that of the professor, was a lot more detailed than what would be deemed necessary. The details in many slides were a lot and were with too many sentences. So much of details might have been avoided and most could have been explained just orally. Some story, instances or talking about his own motivation for working in the project might have added to the interest of the viewer. Videos or some other kind of visual aids could have been used to increase the presentation's appeal. The presenter did not stress on why his field of research is important. Benefits of the research to humanity was not given emphasis.

There are no questions on the the expertise of Professor Francesc Alias i Pujol in the subject. The effort that he put in, to create the presentation and then presenting it is also commendable. But considering that not all of his listeners are from his field of research, more concise slides with less details and more oral delivery could have been better.