Critical Review

The seminar " Audio Signal Processing for Dynamic Noise Mapping in Smart Cities" was presented by Professor Francese Alias on 22nd of November 2017 at UPC. He is a current Associate professor in the department of engineering at La Salle-URL, serving as a head of the department.

The Seminar basically tried to provide the key information on the steps of the audio signal processing together with the main challenges of their application for computing dynamic traffic noise maps in real life environments. The Seminar starts with a basic introduction of the sound level that are quite, loud, and noisy to the human ear. The professor tired to explain Audio Signal Processing by introducing the types of sound and the senses that a normal human being use when it comes to get the information from the environment which he describe to be sight together with the hearing among the five senses. He also stresses that the acoustic information can deliver relevant data about the environment. The professor also introduce a separate model to recognize any sound by getting sample, feature extraction of the sample, machine learning and audio database which consist of various list of sounds. The process involves training the system for machine learning which classifies the feature of the object, testing the machine learning for accuracy. The professor explains his interest which focuses in perception for feature extraction which try to model the spectral analysis that perform by human ear cochlea where Mel-frequency cepstral co-efficient become the factor standards due to their good performance in automatic speech recognition related tasks. The professor also explains about how WASN-based noise monitoring measures the noise level of the dynamic acoustic environments to create the static picture of noise map which should be reviewed every 5 years . The professor describes his involvement in development of DYNAMAP which aims at developing Dynamic noise mapping system able to represents the real time acoustic impact of road infrastructure, stating road traffic noise as a main focus. This ease and reduce the cost to periodically updating noise maps as required by the END on environmental noise. The Anomalous Noise Event Detector (ANED) employ the algorithm to identify different noise source, which is currently being tested to compare 20 different anomalous noise in Rome and Milan.

The depth of research and statistics presented in the seminar reflects the expertise of Professor Francese Alias in this particular field. The presentation is quite vast and technical from the point of the audience who is not from the related field. The Presentation could have been better and enticing if there were more of visual representation of his idea and statistics. As an audience I also felt like there was quite a lot of extra information which has somewhat diverted the main idea of the seminar.

There no doubt about the knowledge and idea that Professor Francese Alias posses in his specific field but the presentation could have been more interesting for the listener if he had considered every type of audience while preparing his slides and presentation.