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Convolutional Neural Networks for Environmental Sound Recognition

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Environmental sound recognition is now an important field of computer science, with applications in manifold domains like security, environment protection, wildlife monitoring. The current methodology evolved from methods used in speech-based applications to more specific approaches, and with the rapid growth of the deep learning technologies many attempts using these methods came about. The paper extends our former research using Deep Feed Forward Neural Networks, by exploring the Convolutional Neural Networks for the recognition of environmental sounds susceptible to indicate a logging activity in forest environment. Unlike other Convolutional Neural Networks solutions to AESR, where the input data ix based either on Log-Mel-Spectrograms or raw data, we will use as input data linear frequency Log Spectrograms. We will compare these results with the ones obtained with Deep Deed forward Neural Networks applied on Fourier power spectrum.

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