Classification of Cochannel Signals Using Cyclostationary Signal Processing and Deep Learning

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Abstract : The task of classifying radio frequency (RF) signals has seen recent success in employing deep neural network models. In this work, we present a combined signal processing and machine learning approach to signal classification for cochannel anomalous signals. The power spectral density and cyclostationary signal processing features of a captured signal are computed and fed into a neural net to produce a classification decision. Our combined signal preprocessing and machine learning approach allows for simpler neural networks with fast training times and small computational resource requirements for inference with longer preprocessing time.

Keywords : signal processing, machine learning, cyclostationary signal processing, signal classification

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