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## Designing and learning features for music information retrieval

*lundi 30 juin 2014 15:05 (25 minutes)*

This talk discusses a mix of concepts, problems and techniques at the crossroads of signal processing, machine learning and music. I will start by introducing content-based music information retrieval (MIR) as an important and challenging data science problem. Then, I will discuss recent work done at my lab on a variety of MIR problems such as automatic chord recognition, music structure analysis, cover song identification and instrument recognition. In the process of doing so, I'll review the impact of feature design for specific MIR tasks, suggest that existing feature extraction methods in audio can be re-conceptualized as deep, multi-layer and trainable systems combining affine transforms and subsampling operations, and show a few examples where deep learning matches or outperforms the current state of the art in music and sound classification. Finally, I'll discuss open challenges and opportunities in the field.

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