Real time audio indexing engine for a broadcast media navigator for FM and DRM bands

Mots clés :
- Directeur de thèse : Bruce Denby
- Co-encadrant(s) :
- Unité de recherche : Laboratoire SIGnaux, Modèles, Apprentissage statistique
- Ecole doctorale : École Doctorale Informatique, Télécommunications, Électronique de Paris
- Domaine scientifique principal: Divers

Résumé du projet de recherche (Langue 1)
The ANR project SurfOnHertz has recently completed building a broadcast media navigator for the FM radio band, capable of capturing and demodulating all FM radio stations present in the zone of reception - several tens of stations - and supply the audio streams of these stations (mono, audio, and RDS) to an audio indexing engine, for such tasks as speech/music detection, musical genre identification, speech processing, and the like. Thus far, the main thrust of the project has been to build the front-end processor which supplies the parallel output audio streams for the FM band; only some primitive audio indexing has been carried out. The goal of the thesis will be to advance towards a genuine real time audio indexing engine capable of providing state-of-the-art functionalities such as: interactive content-sensitive man machine interface; voice requests for keyword searches; content-sensitive recommender system; labelling of commercial content; searches for specific music clips; etc. The accent will be upon functional algorithms that can be executed in real time and implanted on the broadcast navigator platform, in DSP, FPGA, multi-thread GPU, or standard PC architectures. An extension to the DRM band will also be a major concern of the thesis.

Informations complémentaires (Langue 1)
A functional broadcast media navigator will transform the broadcast bands into a Hertzian internet and make available for search and indexation a wealth of as yet untapped media content and meta-data. The SurfOnHertz project is a pioneer in this newly emerging field of research, which will become ever more important as new radio technologies such as DRM begin to take hold across the world, and guarantee that the advances made during the thesis will be in high demand internationally.

Informations complémentaires (Langue 2)