Proposition de recherche doctorale

Drum sound synthesis with generative adversarial neural networks

Mots clés :

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- Co-encadrant(s) :
- Unité de recherche : Sciences et Technologies de la Musique et du Son
- Ecole doctorale : École Doctorale Informatique, Télécommunications, Electronique de Paris
- Domaine scientifique principal : Sciences et technologies de l'information et de la communication

Résumé du projet de recherche (Langue 1)

The project proposes to investigate into drum synthesis with GAN. A key hypothesis of the present project is that GAN style audio synthesis has the potential to unlock creative sound effects that can significantly enlarge the reservoir of sounds playable with electronic drums. For this to take place audio synthesis with GAN synthesizers needs to make significant progress. The present project aims to develop methods that achieve sound quality and variability that is at a similar level than what has been achieved for image synthesis. The following questions have to be solved: • An appropriate sound representation (spectral or temporal domain) for synthesis of drum sounds; • a synthesis method allowing for professional quality audio with at least a sample-rate of 44.1kHz; • control structures that are establishment of control interfaces.