AIM Summer School 2024

AI-based Systems for Facilitating Loop-based Music Composition

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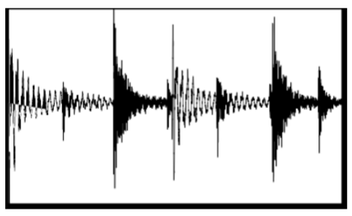
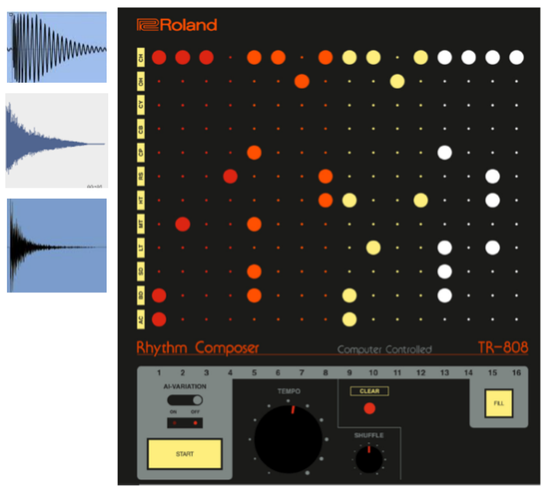


--> A **sequencer parameter estimation** and **source separation** system -->



Input:
A drum loop

Output:
one shot percussive samples + sequencer parameters

Finding

In Study 1, we worked on compatible loop generation utilising RAVE models Drum2Bass: generating a bass loop in the audio waveform that can 'match' an input drum loop. We trained an extra neural net to learn the mapping from a drum loop's RAVE latent embedding to a bass loop's RAVE latent embedding.

Question

In Study 2, we are working on sequencer parameter estimation for drum loops: mapping a drum loop from the audio waveform domain to sequencer parameters (e.g. global tempo, step activation vectors, etc.). I'm looking for help on how to make the drum sequencer rendering process differentiable to enable a training framework similar to that of DDSP.

Supervisor(s): Mathieu Barthet