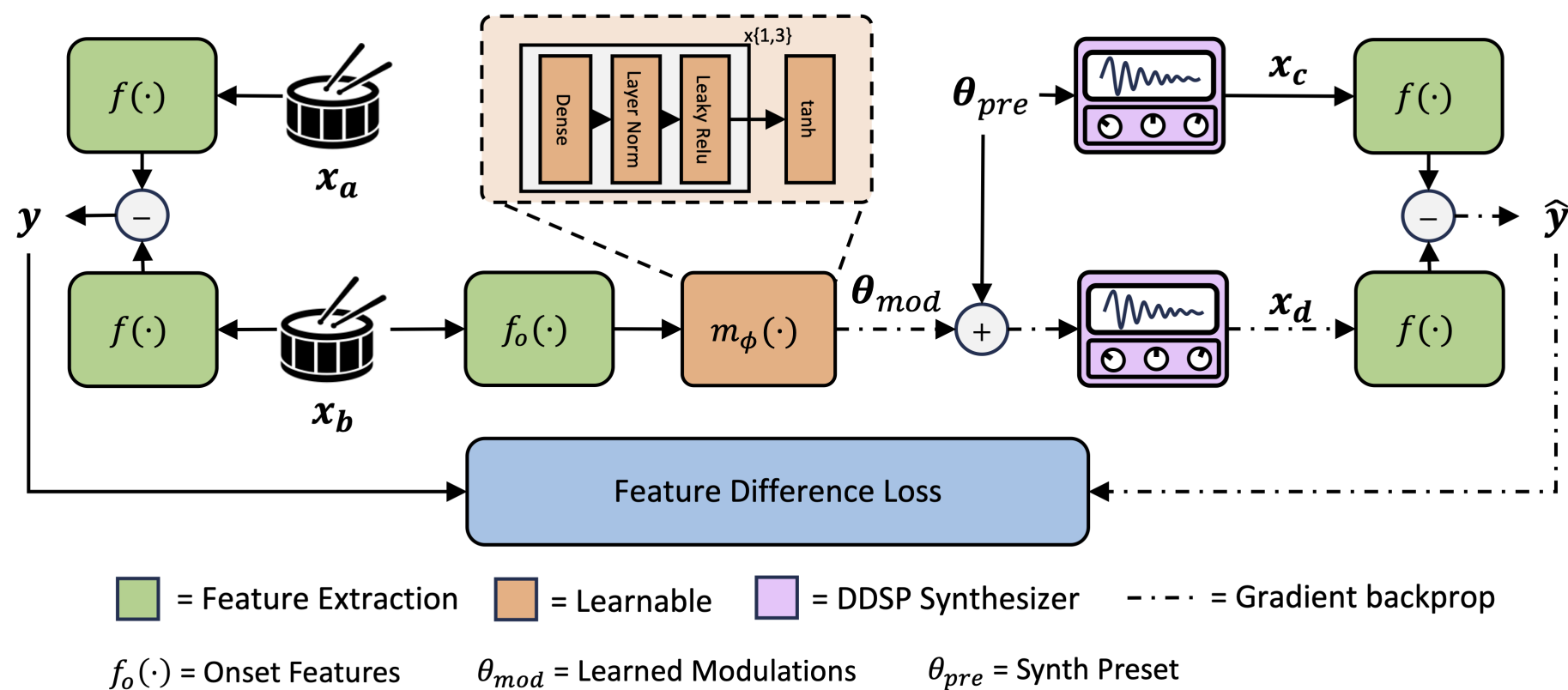


Real-time Timbral Mapping for Synthesized Percussive Performance

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2022



Finding

How can we achieve audio-driven synthesis where timbre variation from an input performance is considered as a primary control? Using timbre analogies! Similar to how melodies can be transposed into different keys, we transpose timbral sequences observed in an input onto a synthesiser. This is supported by differentiable DSP.

Question

What audio/timbre features are most relevant for timbre remapping of percussion instruments? How can deep learning and/or learned embeddings support timbre remapping (which is essentially a style transfer task) between acoustic percussion and a synthesiser?