

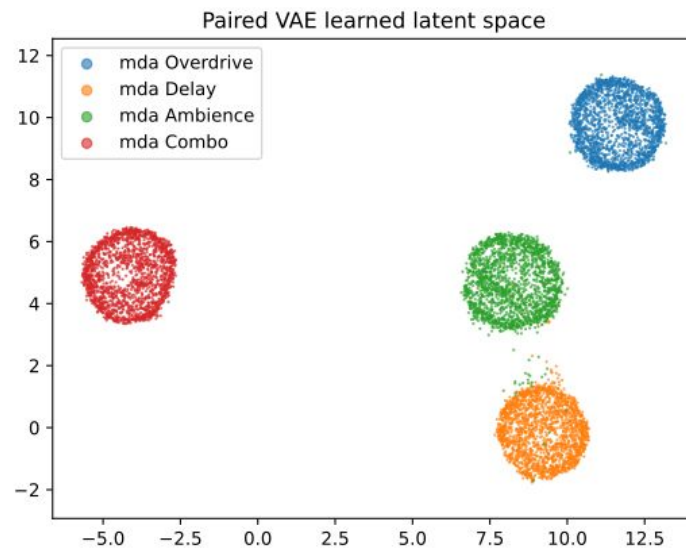
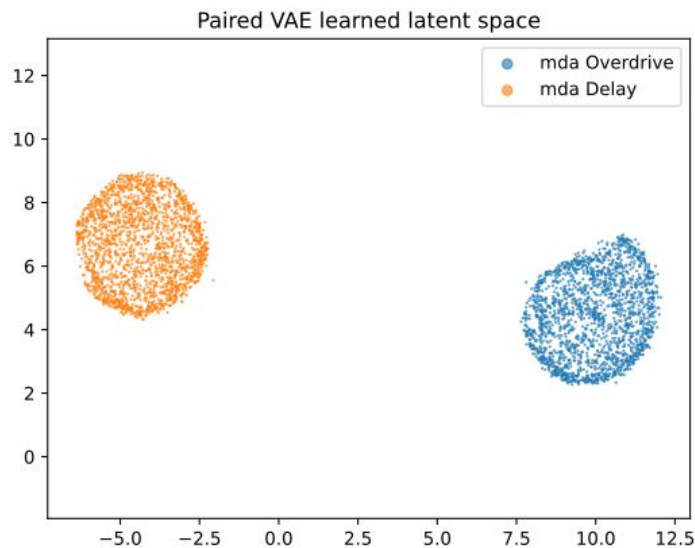
Week 7 Meeting

2357351G - MSci Half Project

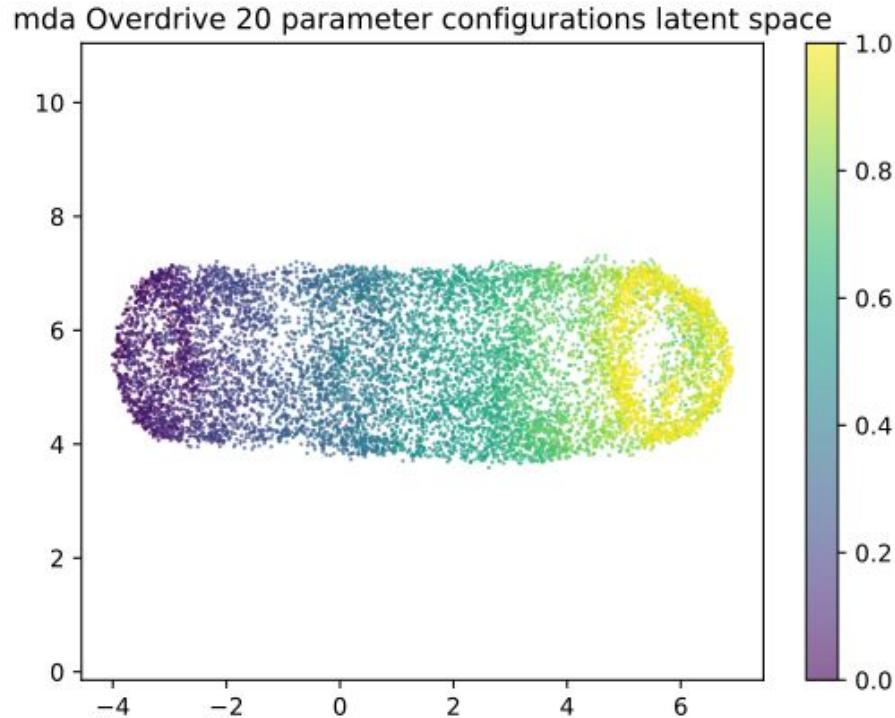
What I've done this week

- Found issue with preprocessing of spectrograms when training VAE, retrained with correct calculation of spectrograms.
- Created visualisations of latent space, reconstructions and interpolations.
- *Today:*
 - *Implemented spectrogram to audio code, checked reconstructions with these.*
 - *Visualised latent space of different parameter settings with same DAFX.*
 - *Short training run of end-to-end system with new VAE and static parameter settings for single effect.*

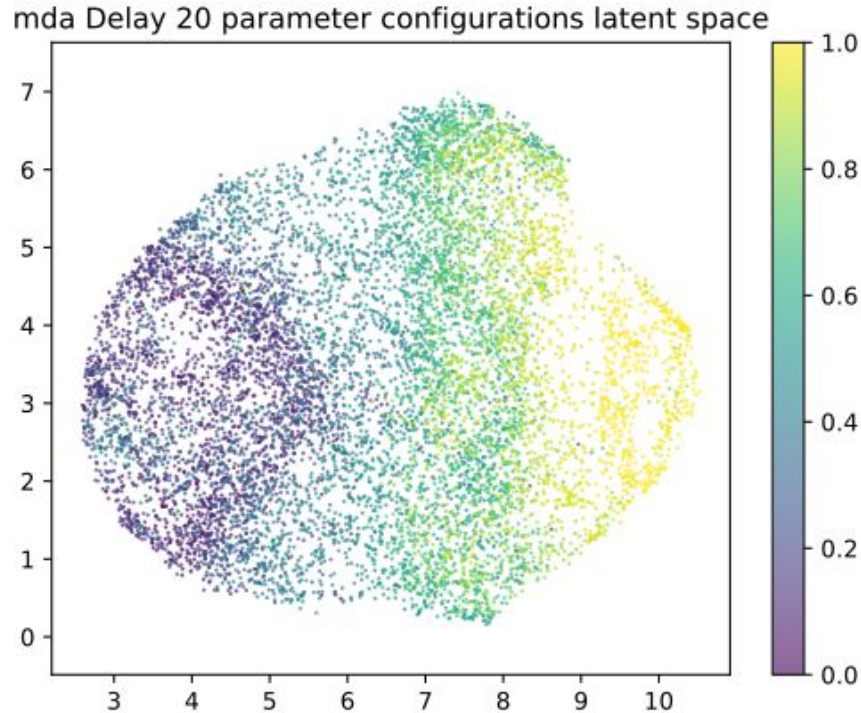
Projection of latent embeddings



Interpolation of FX settings (Overdrive)

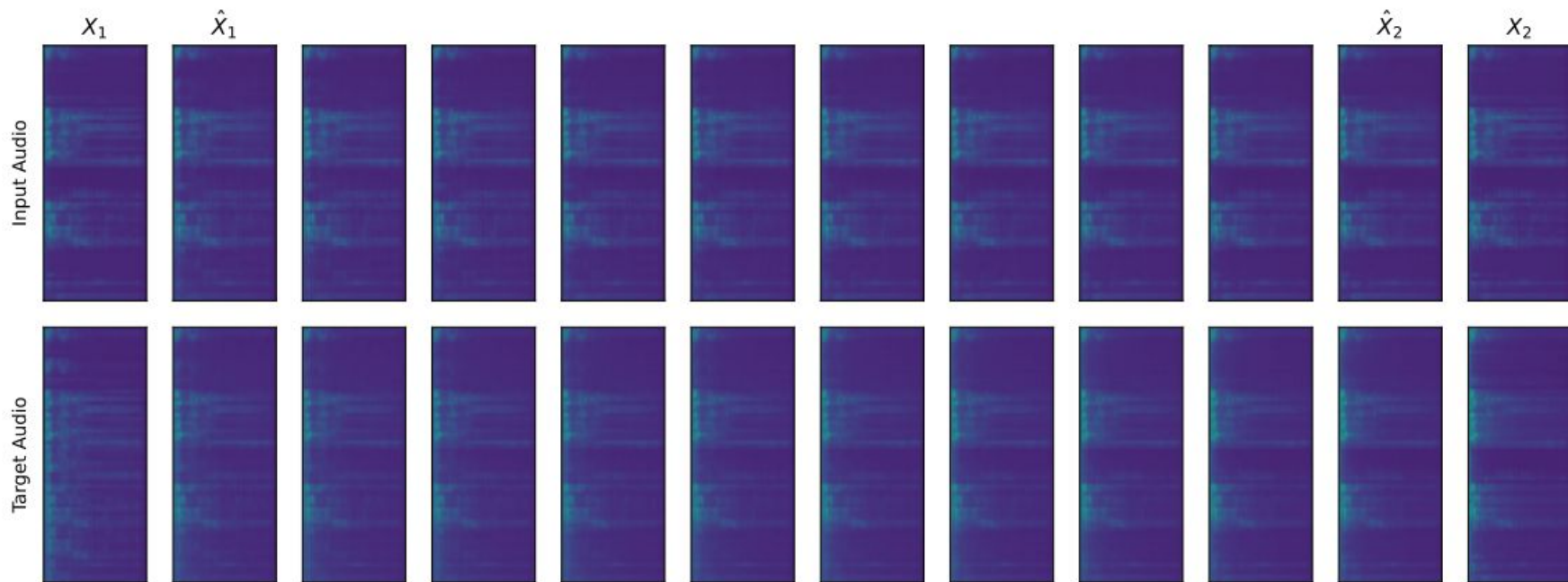


Interpolation of FX settings (Delay)



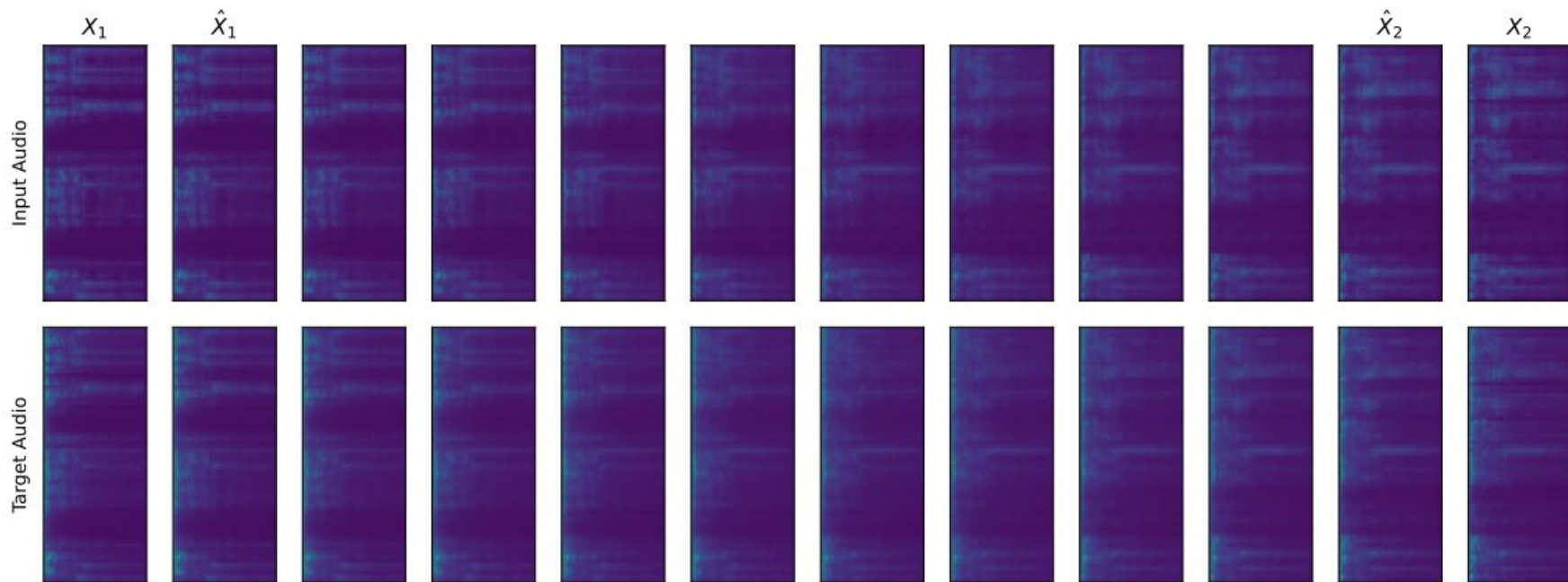
Interpolation (same audio, different FX)

Interpolating between Delay and Overdrive, same Audio source



Interpolation (different audio, same FX)

Interpolating between two different audio sources, Overdrive applied to each



Spectrogram Reconstruction (Overdrive)

Original (clean) audio:

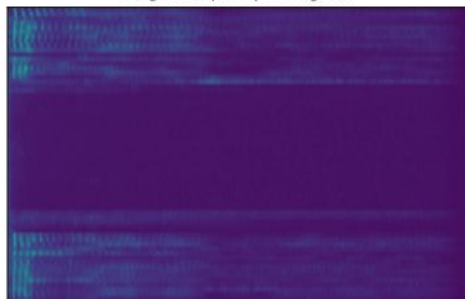


Original (effected) audio:

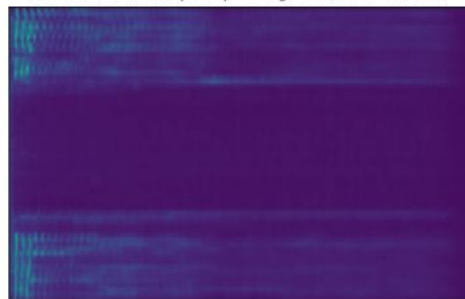


mda Overdrive

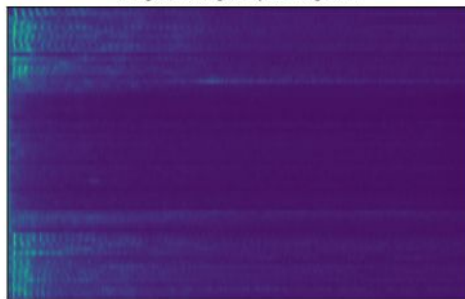
Original input spectrogram



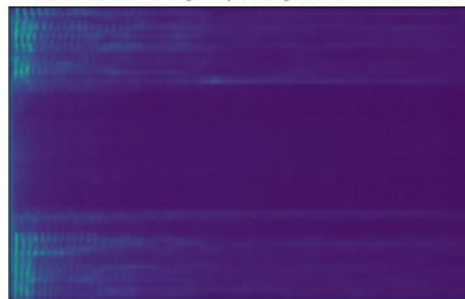
Reconstruction input spectrogram (MSE: 0.0933)



Original target spectrogram



Reconstruction target spectrogram (MSE: 0.1048)



Spectrogram Reconstruction (Delay)

Original (clean) audio:

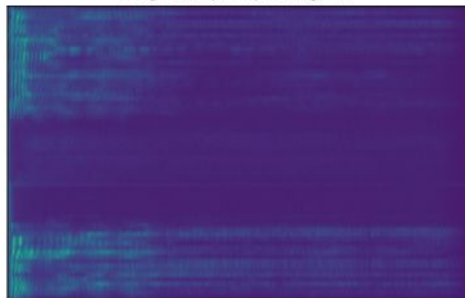


Original (effected) audio:

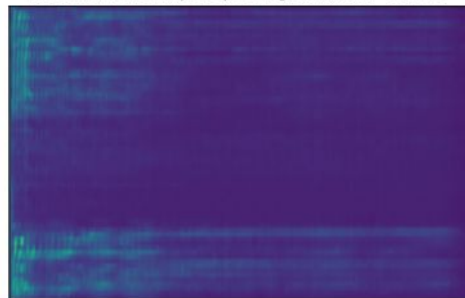


mda Delay

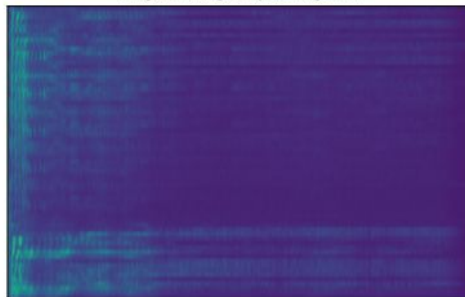
Original input spectrogram



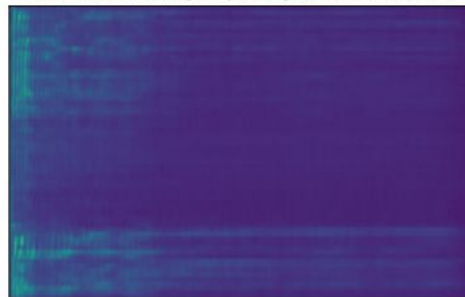
Reconstruction input spectrogram (MSE: 0.1046)



Original target spectrogram



Reconstruction target spectrogram (MSE: 0.1397)



Plan for next week

- Continue working on training of end-to-end system with new VAE.
- More visualisations of latent space parameter settings (per parameter).

Where I am in schedule

- Not a lot of progress made in the last week due to debugging and a heavy coursework week.
- Newly trained VAE seems to create some sensible embeddings of different parameters and DAFX types.
- Hoping downstream training of end-to-end network won't be quite as problematic.