



Prof. R. Wattenhofer

Raw Audio Source Separation and Style Transfer

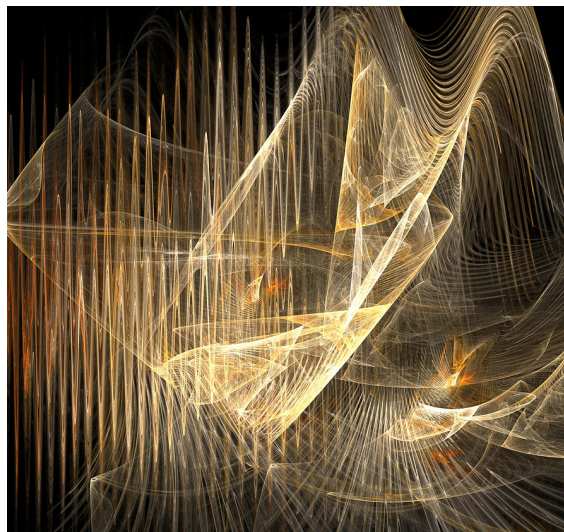
In this project we will attempt to separate the sources from a single raw audio track. We will also attempt to perform different forms of style transfer, such as instrument transfer. We will focus on using deep generative models, e.g., generative adversarial networks. We also aim to analyse and improve disentanglement in the latent spaces learned by our models. Extensions could include the incorporation of models such as Fast WaveNet and raw audio generation.

Requirements: Knowledge in Deep Learning, or solid background in Machine Learning. Implementation experience is an advantage. You should be able to read and understand the first 12 chapters of the "Deep Learning Book" by Goodfellow et al. (available for free online from MIT press). If you are interested in the topic but new to deep learning we expect you to complete an introductory deep learning course before applying for the thesis, such as Andrew Ng's coursera course (use the free trial!)¹ or this Udacity course².

Interested? Please contact us for more details!

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¹<https://www.coursera.org/specializations/deep-learning>

²<https://classroom.udacity.com/courses/ud730>