



Prof. R. Wattenhofer

## Neural Transfer of Musical Style

The disentanglement of style and content comes relatively easy to us humans. We can look at a painting and describe the contents as “there is a house”, and describe the style as “this looks like it has been painted by Picasso”. This is an inherently difficult task for machines, since it requires deep knowledge of visual perception. Amazingly, the separation of style and content in images using Deep Learning has been quite successful<sup>1</sup>.

However, in less visual domains, such as music and written text, progress is slower. In this thesis we are interested in further exploring disentanglement between style and content in music. Different musicians and composers of different epochs have different styles. Experts can certainly distinguish between Mozart and Beethoven, or Eric Clapton and Jimi Hendrix. In this project we can consider the style of composers, i.e., how musical pieces are written and/or the style of musicians, i.e., how the written music is played/interpreted. Additionally, the type of music (genre) is also closely connected to musical style. We have already done some research in this direction and are also open to new ideas. If this sounds interesting to you, do not hesitate to contact us.



**Requirements:** Knowledge in Machine and Deep Learning. Some practical experience with implementation of ML/DL algorithms would be helpful. Some music theory knowledge is necessary.

**Interested? Please contact us for more details!**

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<sup>1</sup><https://arxiv.org/abs/1508.06576>