

Abstract for “Modeling Rhythmic Motif Structure with Fuzzy Logic and Machine Learning” (2004)

By Tillman Weyde

Research Unit for Music and Media Technology
University of Osnabrück
Osnabrück
D-49069 Germany
tweyde@uos.de

Analyzing the motif structure of rhythmic sequences is a central issue to music psychology, music theory, and computer applications in music. There are many approaches to the topic by music theorists, psychologists, and computer scientists, yet a model capable of integrating the different findings is still missing. The Integrated Segmentation and Similarity Model (ISSM) presented here is a newly developed model designed for this integration. It is based on a structural representation with detailed information on individual parts, a fuzzy system for rating structural alternatives, and algorithms for computationally efficient structure-recognition and system-optimization by machine learning. The design of the ISSM is described with a focus on musical motivation, and some results of the implementation and evaluation are discussed.

*Music Query: Methods, Models, and User Studies (Computing in Musicology 13), 35-50.
Published by CCARH and the MIT Press, 2004.*

