

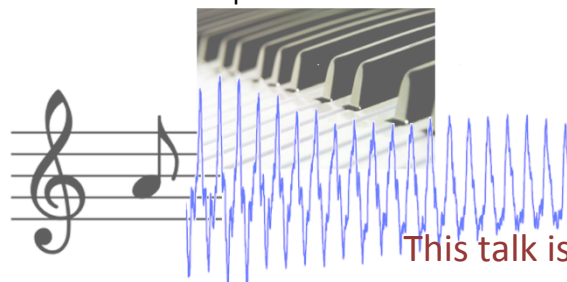
School of Mathematics Colloquium

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Beethoven, Bach, and Billions of Bytes When Music meets Computer Science

Significant digitization efforts have resulted in large music collections, which comprise music-related documents of various types and formats including text, symbolic data, audio, image, and video. For example, in the case of an opera there typically exist digitized versions of the libretto, different editions of the musical score, as well as a large number of performances given as audio and video recordings. In the field of music information retrieval (MIR) great efforts are directed towards the development of technologies that allow users to access and explore music in all its different facets. For example, during playback of some CD recording, a digital music player may present the corresponding musical score while highlighting the current playback position within the score. On demand, additional information about melodic and harmonic progression or rhythm and tempo is automatically presented to the listener. A suitable user interface displays the musical structure of the current piece of music and allows the user to directly jump to any key part within the recording without tedious fast-forwarding and rewinding. Furthermore, the listener is equipped with a Google-like search engine that enables him to explore the entire music collection in various ways: the user creates a query by specifying a certain note constellation, some harmonic progression, or rhythmic patterns, by whistling a melody, or simply by selecting a short passage from a CD recording; the system then provides the user with a ranked list of available music excerpts from the collection that are musically related to the query. In this talk, I provide an overview of a number of current research problems in the field of music information retrieval and indicate possible solutions. Furthermore, I want to discuss to which extent computer-based methods may help users to better access and explore music in all its different facets.



Friday, Nov 24th

JCMB LTC

16:05 - 17:00

This talk is for everybody: UG, PG students, and faculty!