

Exploiting Cultural Specificity in Music Information Research

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Music Information Research (MIR) is a discipline that aims to understand and model music from an information processing perspective and one of its major challenges relates to the automatic generation of musically meaningful information with which to better describe and exploit audio music recordings. The goal is to integrate and process a variety of data sources, like the actual audio recordings, plus editorial metadata and contextual information, to obtain structured information that is semantically and musically meaningful and that is of use in search, retrieval and discovery tasks [1].

A piece of music is an information entity that makes sense specially within a particular social and cultural context. Its analysis and description has to take that into account and thus the data-driven approaches have to incorporate domain knowledge from that particular context in order to make sense of the available information on that piece of music.

In this presentation I will introduce the research currently being done in CompMusic (<http://compmusic.upf.edu>), a project funded by the European Research Council that focuses on a number of MIR problems through the study of five music cultures: Hindustani (North India), Carnatic (South India), Turkish-makam (Turkey), Arab-Andalusian (Maghreb), and Beijing Opera (China). We work on the extraction of musically relevant features from audio music recordings related to melody and rhythm, and on the semantic analysis of the contextual information of those recordings [2].

Given that most of the research in MIR has been based on studying the western commercial music of the last few decades, our claim is that the technologies developed have a strong bias towards that music, thus not being appropriate for other music repertoires. We want to identify the current limitations and propose information processing approaches that can go beyond those boundaries. For that we selected a few music cultures that had personalities contrasting with the popular western music, that had alive performance practices and strong social and cultural relevance, for which there were musicological and cultural studies, and for which it was feasible to collect sufficient and coherent machine-readable

music data. At the same time we wanted to have a diverse set of music repertoires with which to study a variety of new and diverse MIR problems.

A major effort in CompMusic has been the creation of research corpora. The types of data that we have gathered are mainly audio recordings and editorial metadata, which are then complemented with descriptive information about the items we have, and in some cases with music scores and/or lyrics. In order to evaluate our research results we have defined a user scenario and have developed a complete system-level application with which users can interact and with which we can evaluate most of the research results from a user perspective. The system, Dunya (<http://dunya.compmusic.upf.edu>), is a web-based application to explore music collections aimed at music connoisseurs of the particular music traditions. It uses the technologies developed for melodic and rhythmic description and semantic analysis to navigate through the audio recordings and the information items available. This navigation promotes the discovery of relationships between the different information items.

References

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