



Editorial for TISMIR Special Collection: Cultural Diversity in MIR Research

EDITORIAL

ZHIYAO DUAN 

PETER VAN KRANENBURG 

JUHAN NAM 

PREETI RAO 

*Author affiliations can be found in the back matter of this article
Authors are listed in alphabetical order.

ubiquity press

ABSTRACT

Music is often considered a universal language, yet different cultures have created diverse music traditions. There is a growing awareness within the music information retrieval (MIR) community that both the music as a signal, and the user as an enculturated listener, cannot be fully understood without taking this diversity into account. This special collection continues the effort in promoting cultural diversity in MIR research initiated in ISMIR 2021. The five articles in this collection explore multiple aspects of this effort, ranging from data collection to technical solutions and philosophical considerations. While a lot of work remains to be done to thoroughly address cultural diversity issues in MIR research, we believe that this special collection makes a good contribution.

CORRESPONDING AUTHOR:

Zhiyao Duan

University of Rochester, US
zhiyao.duan@rochester.edu

KEYWORDS:

Cultural diversity;
Computational
ethnomusicology; Data
collection; Interdisciplinarity;
Responsible MIR

TO CITE THIS ARTICLE:

Duan, Z., van Kranenburg, P., Nam, J., & Rao, P. (2023). Editorial for TISMIR Special Collection: Cultural Diversity in MIR Research. *Transactions of the International Society for Music Information Retrieval*, 6(1), 203–205. DOI: <https://doi.org/10.5334/tismir.179>

In this special collection of papers on Cultural Diversity in MIR Research, we present five articles that also illustrate the diversity in research focus under this broad theme. Below we provide a summary of each of the articles.

One starting point of improving cultural diversity in MIR research is to diversify the music corpora in machine-readable formats. Work of this kind takes a tremendous amount of effort but can have a lasting impact in our community. In “Community Based Music Information Retrieval: A Case Study of Digitizing Historical Klezmer Manuscripts from Kyiv”, Malin et al. present the Kiselgof-Makonovetsky Digital Manuscript Project (KMDMP), a community-based project to digitize historical handwritten music manuscripts held by the Vernadsky National Library of Ukraine. This collection contains a total of around 1,300 melodies, combining typical Jewish dance and non-dance genres, European dance music, and songs and liturgical chants. In addition to presenting the challenges and methods of this digitization project, the paper also presents its implications for MIR and computational ethnomusicology and reflections on the project in the larger context of MIR and diversity.

Another contribution to the diversification of data is provided in “A Dataset of Norwegian Hardanger Fiddle Recordings with Precise Annotation of Note and Beat Onsets” by Lartillot et al. The authors address the specificities of Hardanger fiddle music, which is a folk music tradition from the western and central part of southern Norway. In 18 recordings of fiddle pieces, note onsets and offsets, and beat positions are precisely annotated. The methodological approach and the newly developed annotation software have the potential to be applied for the annotation of recordings from other musical traditions. The beat tracking is challenging due to the metric complexities of the style. The authors show that existing beat tracking methods fail to reach even moderate success on this data set. For the annotation of beats, a new approach is proposed in which those notes that have their onset on the beat are annotated. The resulting data set is a valuable contribution to MIR as well as to ethnomusicology. It provides new and challenging ground truth for various MIR tasks, and it allows study of the peculiarities of this intriguing folk music style.

Along the same line of addressing the data scarcity issue in MIR tasks for less investigated music genres, in “Four-way Classification of Tabla Strokes with Transfer Learning Using Western Drums”, Ananthanarayana et al. explore the idea of transfer learning for tabla stroke transcription. Specifically, they pre-train a model on similarly sounding Western drums and fine tune it on tabla data for the transcription of four categories of tabla strokes from audio recordings. Experiments show that while fine-tuning significantly improves transcription

accuracy over pre-trained models as expected, it only surpasses the model trained on tabla data from scratch on one of the four investigated stroke categories. This result shows the challenge of transfer learning from culturally different music data.

The superiority of deep learning models over heuristics-based algorithms in MIR tasks, such as predominant melody extraction from polyphonic audio, has been amply demonstrated in recent years. As is also well known, such data-driven approaches are prone to performance degradation arising from domain drift or the mismatch between training and test data. In “Repertoire-Specific Vocal Pitch Data Generation for Improved Melodic Analysis of Carnatic Music”, Plaja-Roglans et al. propose a methodology for the synthesis of realistic training data that corresponds exactly with provided melodic pitch annotations, where the latter annotations are previously estimated from cleaned up close-mic recordings available for vocal Carnatic concerts. On Carnatic music test data, the resulting trained state-of-the-art model is shown to outperform a similar model trained with Western music data, thus providing a valuable methodology for similar resource-constrained repertoires and MIR tasks.

Collecting underrepresented music corpora and framing them as MIR tasks is a prevalent strategy to promote cultural diversity within the MIR community. However, in “Beyond Diverse Datasets: Responsible MIR, Interdisciplinarity, and the Fractured Worlds of Music”, Huang et al. call for a more profound philosophical transformation in MIR beyond the current practice. This transformation entails addressing epistemological, ontological, methodological, and axiological considerations. The authors illustrate this perspective through two insightful case studies. Firstly, they explore the ethical implications of generative music AI and emphasize the importance of integrating axiological dimensions to encourage a comprehensive examination of music ecosystems within the MIR community. Secondly, they re-contextualize the study of Irish traditional music, demonstrating an agonistic interdisciplinarity approach that promotes responsible engineering within the realm of traditional music.

ACKNOWLEDGEMENTS

We would like to thank the TISMIR editorial team for their support in bringing the idea to life of this special collection. A special thanks goes to the peer reviewers, for their enthusiasm and critical and constructive feedback to the submitted work. We would also like to thank all authors of papers in this collection as well as authors of submitted papers that are not eventually included in this collection.

FUNDING INFORMATION

The work of Duan on this special collection has been supported in part by National Science Foundation grant No. 1846184.

COMPETING INTERESTS

The authors have no competing interests to declare.

AUTHOR AFFILIATIONS

Zhiyao Duan  orcid.org/0000-0002-8334-9974
University of Rochester, US

Peter van Kranenburg  orcid.org/0000-0002-9760-2424
KNAW Meertens Institute, Utrecht University, NL

Juhan Nam  orcid.org/0000-0003-2664-2119
Korea Advanced Institute of Science and Technology, KR

Preeti Rao  orcid.org/0000-0002-2842-8450
Indian Institute of Technology Bombay, IN

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Submitted: 06 November 2023 **Accepted:** 11 November 2023 **Published:** 13 December 2023

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