EDITORIAL

Editorial: Introducing the Transactions of the International Society for Music Information Retrieval

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The *Transactions of the International Society for Music Information Retrieval* (TISMIR) publishes novel scientific research in the field of music information retrieval (MIR), an interdisciplinary research area concerned with processing, analysing, organising and accessing music information with computational methods. This definition suggests that the words *information retrieval* are not taken particularly literally in the ISMIR community, who have chosen to preserve the name for continuity. Meanwhile many ISMIR members think of MIR as *music information research* (Serra et al., 2013), or use an equivalent term such as *music informatics.* But academic pursuits do not confine themselves to disciplinary boundaries, and this is particularly true of the multi-disciplinary and inter-disciplinary field of MIR. So TISMIR welcomes submissions from researchers working across a wide range of disciplines, including computer science, musicology, cognitive science, library & information science, acoustics and electrical engineering.

Within this scope, topics of interest to TISMIR include:

· MIR Data and Fundamentals (audio signal processing; symbolic music processing; metadata, tags, linked data and semantic web; lyrics and other textual data, web mining and natural language processing; multimodality)
· Cross-Domain Knowledge (representations of music; music acoustics; computational music theory and musicology; music cognition; machine learning & artificial intelligence for music)
· Methodology and Impact (corpus creation; annotation methodology; evaluation methodology; legal, social and ethical issues)
· Musical Features and Properties (melody and motives; harmony, chords and tonality; rhythm, beat and tempo; structure, segmentation and form; timbre, instrumentation and voice; musical style and genre; musical affect, emotion and mood; expression and performative aspects of music)

· Music Analysis and Processing (sound source separation; music transcription and annotation; optical music recognition; alignment, synchronisation and score following; music summarisation; music synthesis and transformation; fingerprinting; automatic classification; indexing and querying; pattern matching and detection; similarity metrics)
· User-centred MIR (user behaviour and modeling; human-computer interaction; user-centered evaluation)
· Applications (digital libraries and archives; music retrieval systems; music recommendation and playlist generation; music and health, wellbeing and therapy; music training and education; music composition, performance and production; gaming; business and marketing)

TISMIR was established to complement the widely cited ISMIR conference proceedings and provide a vehicle for the dissemination of the highest quality and most substantial scientific research in MIR, providing space for longer, broader and deeper **research papers** than the conference proceedings allow, and freeing authors from the timing constraints of the annual conference cycle. TISMIR is strongly committed to the principles of Open Science, and retains the Open Access model of the ISMIR Conference proceedings, providing rapid access, free of charge, to all journal content. In order to encourage reproducibility of the published research papers, we provide facilities for archiving the software and data used in the research. In addition, we encourage the publication of **dataset papers** that present novel efforts in data collection and annotation that have a strong potential impact on the way MIR technologies are exploited and evaluated. The journal also incorporates **overview articles** that provide a comprehensive review of a broad MIR research problem, a critical evaluation of proposed techniques and/or an analysis of challenges for future research.

The journal is published online as a continuous volume throughout the year. Proposals for special collections of articles are welcomed. Such articles will be published as part of a normal issue, but also within a separate collection page.

Articles are made available as soon as they are ready to ensure that there are no unnecessary delays in getting content publicly available. There is no embargo on the

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History

Since the first ISMIR Conference in 2000, the field of MIR has been maturing and growing, supported by a vibrant community of academic, industrial and artistic researchers and practitioners. Several overviews of the field have been written (Downie, 2003; Orio, 2006; Casey et al., 2008; Xerra et al., 2013; Schedl et al., 2014), as well as a growing number of text books on MIR topics in recent years (e.g., Müller, 2007, 2015; Knees & Schedl, 2016). In response to the growth of the MIR research community, the International Society for Music Information Retrieval (ISMIR) was established (incorporated in Canada on July 4, 2008). The conference series had previously been run, very successfully, by a 10-member strong Steering Committee, but without formal mechanisms for decision-making or for the selection or replacement of its members. The Society then elected their first Board, who took over the role of the Steering Committee, and gradually developed a broader remit than just the organisation of the annual conference.

One outcome of this wider range of activity was the proposal to establish a journal in the field of MIR. After many months of discussion, the ISMIR Board, with the support of the Society, completed the planning to launch a journal, the Transactions of the International Society for Music Information Retrieval (TISMIR), in order to provide a new publication venue for the substantial scientific research of the wider ISMIR community. In setting up the journal, the Board decided upon a model based on the principles of openness and inclusivity, in particular: (1) open access to all papers for all people; (2) avoidance of unnecessary publication costs, so that the journal is as inclusive as possible; and (3) reproducibility of the research reported in the journal. The principle of Open Access was already established as the norm for the ISMIR Conference proceedings, and it is seen as essential for removing barriers to entry into the field. Many funding agencies also expect that all outputs from publicly funded work should be made freely available to the public. This means that the traditional model of publishing, where costs of publication are covered by journal subscription fees, is unsuitable, and an author-pays model must be used. To avoid excessive cost to the authors, their institutions, or their funders, we chose a publisher offering electronic-only publishing at a fraction of the cost of traditional publishers. Together with the digital publication of research papers, we encourage open publication of the software and data used in the research in public archives, to facilitate reproducibility of the published research papers. Finding a publisher, Ubiquity Press, who shared these values, an agreement to launch the journal was signed in early 2017.

The journal was established by a committee consisting of Simon Dixon (Queen Mary University of London), Emilia Gómez (Universitat Pompeu Fabra) and Anja Volk (Universiteit Utrecht) with the support of the ISMIR board under Fabien Gouyon (Pandora). Simon Dixon, Emilia Gómez and Anja Volk were chosen to head the editorial board for its first term.

Overview of the first papers

For the launch of TISMIR, the first five papers are representative of the current challenges that the MIR field addresses, including the topics of reproducibility, corpus studies, genre classification, cross-modal retrieval and music segmentation from the perspective of emotion recognition.

The paper "Multimodal Deep Learning for Music Genre Classification", authored by Sergio Oramas, Francesco Barbieri, Oriol Nieto and Xavier Serra, addresses the well-known MIR task of genre classification. Oramas et al. (2018) follow a multimodal perspective which combines complementary information from audio tracks, text reviews and cover art images, to develop their classifier. In addition, the paper presents an approach that learns intermediate representations from the mentioned modalities with deep neural networks, and evaluates these on single and multi-label genre classification tasks.

Multimodality, in this case involving musical audio and score images, is also addressed by Matthias Dorfer, Jan Hajiĉ Jr., Andreas Arzt, Harald Frostel, and Gerhard Widmer in the paper titled "Learning Audio-Sheet Music Correspondences for Cross-Modal Retrieval and Piece Identification" (Dorfer et al., 2018). This work deals with the matching of audio and sheet music images, and it also applies state-of-the-art convolutional neural networks. The method first learns joint embedding spaces for short excerpts of audio and their respective sheet music images. These embeddings are then exploited in two different tasks: piece-score identification from audio and retrieval based on score images. The paper also makes available an open dataset comprising 479 precisely annotated solo piano pieces by 53 composers, for a total of 1,129 pages of music and about 15 hours of aligned audio, which was synthesised from these scores.

Collins et al. (2018) provide TISMIR's first dataset paper, "A New Curated Corpus of Historical Electronic Music". In this work, Nick Collins, Peter Manning, and Simone Tarsitani address the important issue of generating high-quality data sets to facilitate large-scale MIR research. This data set contributes to broadening the focus of MIR, which has been mostly on popular music, by providing 1878 recorded works of historic electronic music from 1950–1999 along with valuable metadata. The paper describes the material, discusses two example research questions and indicates the potential of the data set for further research.

In "A Case for Reproducibility in MIR: Replication of 'A Highly Robust Audio Fingerprinting System'", Joren Six, Federica Bressan and Marc Leman address the difficulty of reproducing previous MIR research due to the unavailability of code and music files, often due to

copyright issues (Six et al., 2018). The authors illustrate this problem by describing their attempts to replicate a widely cited audio fingerprinting system as closely as possible, generating a reproducible version of the method, and reflecting on guidelines relevant for reproducible algorithms and evaluations.

Finally, the paper "Pop Music Highlighter: Marking the Emotion Keypoints" focuses on the link between music segmentation and emotion (Huang et al., 2018). Music segmentation, a part of music structure analysis, is a widely researched topic in MIR with diverse application scenarios. Yu-Siang Huang, Szu-Yu Chou, and Yi-Hsuan Yang address the specific challenge of identifying a representative segment (also called a music thumbnail) of a pop song, while using music classification as a surrogate task, based on the assumption that the highlight of a song corresponds to the most emotional part.

Future

In addition to the above-mentioned papers, there are further articles in the review and editing pipeline, and we are confident that TISMIR has the potential to become the reference journal for our community, providing substantial research contributions, datasets and overview papers that enhance the scientific excellence of the field and demonstrate the principles of research reproducibility and open access.

Competing Interests

The authors have no competing interests to declare.

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