“Music Understanding and the Future of Music Performance"

ABSTRACT

Music understanding by computer has found many applications, ranging from music education to intelligent real-time machine performance. I will describe how current research might impact the very nature of music in the future through intelligent audio editors, computer support for popular music performance, and intelligent music displays. Music understanding problems include (1) matching and searching symbolic and audio music sequences, (2) parsing music to discover musical objects such as sections, notes, and beats, and (3) the interpretation and generation of expressive music performance. I will describe how progress in these areas is leading to a new set of musical practices.

Roger B. Dannenberg

Bio

Roger B. Dannenberg, Professor of Computer Science, Art, and Music at Carnegie Mellon University, is a pioneer in the field of Computer Music. His work in computer accompaniment led to three patents and the SmartMusic system now used by over one hundred thousand music students. He also played a central role in the development of the Piano Tutor and Rock Prodigy, both interactive, multimedia music education systems, and Audacity, the audio editor used by millions. Dannenberg is also known for introducing functional programming concepts to describe real-time behavior, an approach that forms the foundation for Nyquist, a widely used sound synthesis language. As a composer, Dannenberg’s works have been performed by the Pittsburgh New Music Ensemble, the Pittsburgh Symphony, and at many international festivals. As a trumpet player, he has collaborated with musicians including Anthony Braxton, Eric Kloss, and Roger Humphries, and performed in concert halls ranging from the historic Apollo Theater in Harlem to the Espace de Projection at IRCAM. Dannenberg is active in performing jazz, classical, and new works.

* LTI colloquium: http://colloquium.lti.cs.cmu.edu

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