

Finding Structure in Audio for Music Information Retrieval

Speaker: Bryan Pardo

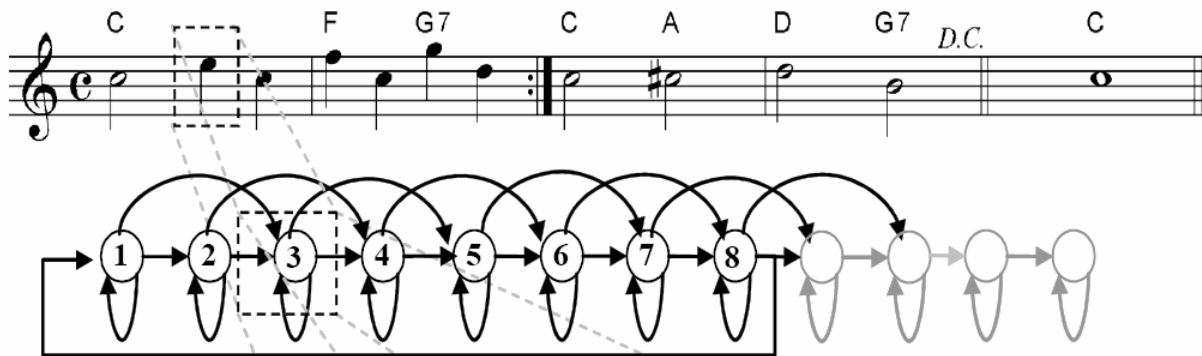
SEMINAR: MEET THE EECS FACULTY

Ford Design Center, ITW Auditorium

(Go to Tech 2nd floor, take bridge south to Ford, go down one floor.

From Ford main entrance, go up one floor)

2:00 -3:00pm, Tuesday April 18, 2006



A key problem facing us in the 21st century is information retrieval and management – how to retrieve, process, and store the information one seeks from the huge and ever-growing mass of available data. Consequently, one of the most important information-science tasks for the 21st century is to design ways to efficiently and accurately access the information that people need within collections of documents or in a single document. Increasingly, the documents of interest are multimedia. Music, from mp3s to ring tones to digitized scores, is one of the most popular categories of multimedia.

Music collections are typically indexed by such features as title, composer, and performer. However, people often wish to perform tasks that require knowledge of their musical content, such as the melody (“What is the name of that song that goes like this <whistled melody>?”), the lyrics (“Make me a video that goes with these lyrics”), or other content (“Could you make the flute part a bit louder in this recording?”).

In this talk, Bryan Pardo will give an overview of research taking place in his laboratory at Northwestern University that address such information needs, presenting demonstrations of current projects. These projects include vocal interfaces and search engines for music databases, machine following of improvised performances, automatic separation of sound sources in a stereo mix to isolate individual instruments, and automatic creation of music videos based on the lyrics of an audio recording.

Bryan Pardo is an assistant professor in the Northwestern University Department of Computer Science with a courtesy appointment in Northwestern's School of Music. Bryan received his B. Mus. from the Ohio State University in 1990, M.S. in Computer Science in 1993, M. Mus. from the University of Michigan in 2001, and Ph. D. in Computer Science from the University of Michigan in 2005. While completing his dissertation, he served as an assistant professor of Music at Madonna University in Detroit, MI. In addition to his academic appointments, Bryan has worked as a software developer for IBM, General Dynamics, and SPSS. When not computing or teaching, Bryan performs throughout the United States on clarinet and saxophone with the Spider Trio and with the performance-art ensemble Weave.

ALSO: Thurs May 4: EECS Professor Selim Shahriar

Tues May 16: EECS Professor Hai Zhou -- "To Optimize or Not to Optimize: Algorithm Design in VLSI CAD"

Tues May 30: EECS Professor Kristian Hammond