



EIGHTEENTH INTERNATIONAL JOINT CONFERENCE ON ARTIFICIAL INTELLIGENCE

August 11, 2003

Workshop on methods for automatic music performance and their applications in a public rendering contest



General Information

Rencon (Performance rendering contest for piano) is a yearly international event that just started in 2002. Its goal is to foster research on computational models of and methods for the generation of expressive musical performances. The workshop associated with a musical contest provides a forum for presenting and discussing the latest research in automatic performance rendering and, more generally, computer-based music performance research.

Rendering expressive piano performance in itself involves complex perceptual, cognitive, psychological, and aesthetic processes. It therefore has a broad spectrum and constitutes a challenging research theme for AI. Moreover, music performance is a promising field for investigating basic principles of human emotion, intelligence, creativity and individuality. *Rencon* is also considered a landmark research project in the sense that its ultimate goal is the development of a performance rendering machine that will win the Chopin concours by 2050, like RoboCup. The process of reaching that goal is expected to spawn many related research fields and yield many interesting results.

The choice of piano puts strong constraints on performance rendering systems. The choice means that the systems can control only three parameters for each note, the onset timing, duration and intensity. Other instruments, such as string instruments, allow players the control of other parameters, such as vibrato and spectral envelope. This limitation will possibly avoid divergence of research themes in the early stages of our project, and research will thereby concentrate on more general and basic principles of music performance.

The IJCAI-03 *Rencon* workshop builds upon the very successful [ICAD 2002 *Rencon*](#) (1st) and [FIT 2002 *Rencon*](#) (2nd) workshops, where we had musical contests as well as an invited talk and technical presentations.

Technical Presentations

The IJCAI-03 *Rencon* workshop will contain several technical sessions on general issues of music performance research, on AI-based music analysis and processing methods relevant to music performance, and on questions of evaluation. For this, technical papers are solicited for.

Specific topics to be discussed in the technical presentations of the workshop include (but are not limited to) the following:

- Theoretical aspects
 - understanding tacit musical knowledge
 - analysis of emotional aspects of performance and listening
 - creativity and individuality
- Methodology
 - modeling performance rendering processes
 - musical data mining/retrieval/pattern recognition
 - reasoning on continuous and discrete information

- learning capability
- Systems and applications
 - interactive real-time control and user interface
 - collaborative, autonomous system
 - control techniques for a computer-controlled piano
 - evaluating performances

The musical genres treated by the technical presentations are open, not limited to classical music.

Musical Contest

The workshop will include a musical contest with both compulsory and open sections as well as several technical sessions. In the compulsory section, set pieces will be limited to Chopin's short piano pieces. In the open section, entrants will choose a piece so that the system developed by each entrant can come into full play; any genre is welcome. Basically, all performances will be rendered by a system automatically. That is, we will not accept performances that were manually rendered or fine-tuned (e.g., with a MIDI sequencer), and we trust the contest participants to adhere to this principle. All performances will be accompanied by technical notes specifying the performance rendering techniques used.

For the musical contest, a dedicated jury of a few music experts will be formed. Submitted performances will be performed one by one on the blind-test basis. The winners will be determined by the jury, which may also take into account the vote of the audience. Surprising awards for excellent performances rendered by systems will be presented.

Submission Instructions

There are two submission categories: **paper** and **musical contest**.

Paper category: Papers should be formatted according to the template provided by [the IJCAI-03 web site](http://www.ijcai-03.org/) (<http://www.ijcai-03.org/>). Papers should not exceed 5000 words (approximately 10 pages); there is not a lower limit fixed. Papers should be sent electronically in PDF to hirata@bri.ntt.co.jp no later than March 1, 2003. All papers will be peer-reviewed. The authors of accepted papers will present for 25 minutes (15 minutes for presentation, and 10 for Q&A). Presenters will be able to demonstrate their systems with real sound, but the demonstrations will not be considered music contest entries.

Musical contest category: The musical contest has two sections: compulsory and open. The open section is optional. The compulsory piece must be a short piano piece by Chopin (4 minutes at the longest). For the open section, entrants can choose any piece in any genre they like (4 minutes at the longest, too). Both performances should be generated by computer programs. In addition, for comparison, entrants also should generate a dead-pan (mechanical) version of the piece chosen for the open section. Send three performances (a compulsory piece, an open piece with expression, and a dead-pan open piece) or one performance (a compulsory piece) in SMF to hirata@bri.ntt.co.jp in one email no later than July 14, 2003.

The performances should be accompanied by technical notes in PDF. Technical notes should specify the concept, method, and implementation of the entries. Technical notes should be formatted using the same template as papers and not exceed 2000 words (approximately 4 pages); there is not a lower fixed limit. Technical notes should be sent electronically in PDF to hirata@bri.ntt.co.jp no later than April 25, 2003. Technical notes will not be peer-reviewed; what is submitted will be printed as is. Most likely, there will be no opportunity for the contest participants to give a presentation on technical aspects of their rendered piece. (It may happen that they will, depending on the session structure, number of submissions, etc., but perhaps at most 5 minutes).

The submitted SMFs will be played back at the IJCAI-03 Rencon workshop with [Nemesys's GigaPiano](#) on [Emagic's Logic](#) on Mac OS.

After the workshop, all the submitted SMFs will be put on [the IJCAI-03 Rencon workshop Web pages](#) (<http://shouchan.ei.tuat.ac.jp/~rencon/IJCAI-03/>) and thus must be free from any copyright problems.

Note: Participants are expected to register for the main IJCAI conference in addition to the workshop.

Important Dates and Deadlines

Paper submission deadline:	March 1, 2003
Notification of acceptance:	April 1, 2003
Camera-ready paper deadline:	April 25, 2003
Technical notes submission deadline:	April 25, 2003
Performances submission deadline:	July 14, 2003
The day of the workshop:	August 11, 2003

Organizing and Program Committees

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The IJCAI-03 Rencon workshop Web pages (<http://shouchan.ei.tuat.ac.jp/~rencon/IJCAI-03/>) will be regularly updated to include program content, schedule and so forth.

Send questions to: ijcai-03-rencon@brl.ntt.co.jp

Last updated: December 1st, 2002

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