

GONG RONG

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EDUCATION

MTG-UPF

PhD candidate in Sound and Music Computing

Multidimensional time series similarity measure in the context of musical education:

Jingju music application

May 2015-Present

Barcelona, Spain

UPMC/IRCAM/TELECOM

Master 2 ATIAM

Acoustics, Signal Processing and Computer Science in Musical Applications

Mention: Awarded with honours (Assez bien)

Thesis: Score Following for the Alignment of Singing Voice

September 2013-September 2014

Paris, France

Université du Maine

Master 1 in Acoustics and Signal processing

Acoustics, Signal Processing and Computer Science in Musical Applications

Mention: Awarded with honours (Assez bien) **Rank:** 1/20.

Project: Dimensioning of a elliptical opening on the top plate of the Chinese instrument Pi'pa

September 2012-July 2013

Le Mans, France

Communication University of China

Master in Acoustics, Psychoacoustics and Signal Processing

Thesis: Analysis on Timbre features of the Plucked-string instruments

September 2008-July 2011

Beijing, China

Northwest University

Bachelor in Applied Mathematics

September 2004-July 2008

Xi'an, China

SUMMARY OF COMPETENCES

Speech Enhancement

▷ Spectral subtraction (implicit Wiener filter, a priori SNR estimation Wiener filter). ▷ One step prediction Kalman filter. ▷ Noise power estimation by minimum statistics.

Music Signal Processing

▷ Chorus detection. ▷ Melody extraction. ▷ Intonation element segmentation. ▷ Note transcription. ▷ Tempo estimation. ▷ High resolution methods for spectral estimation (MUSIC, ESPRIT).

Computer Music

▷ Filter plug-in programming. ▷ Language LISP. ▷ Constraint programming. ▷ MIDI protocol.

Machine Learning

▷ Data clustering (PCA, K-means, Decision tree). ▷ Hidden Markov Model (Dynamic programming).

RESEARCH EXPERIENCES

MTG-UPF

PhD research work

May 2015-Present

Barcelona, Spain

- Develop algorithms for jingu (Beijing opera) singing self-training system.
- automatically retrieving Jingju singing features (tonic, melody, timbre).

iOS developer

iOS music application development

October 2014-May 2015

Paris, France

- Develop the iOS music application Acousticbrainz jukebox for exploring music by emotion.

IRCAM

Master 2 internship

March 2014-August 2014

Paris, France

- Improve the performance of the score following system - Antescofo on singing voice.

Université du Maine

Master 1 project

March 2013-June 2013

Le Mans, France

- Design the opening on the top plate of the traditional Chinese instrument - Pi'pa to augment its low-frequency performance.

Communication University of China

Master thesis work

September 2010-September 2011

Beijing, China

- National Natural Science Foundation of China, NSFC10804100
- Analysis the timbre of traditional Chinese plucked-string instruments by musical features and subjective listening experience

3G Audio

Master internship

November 2010-January 2011

Dongguan, China

- Study the impact of membrane materials on the sound quality of loudspeaker

PUBLICATIONS

GONG Rong, Philippe Cuvillier, Nicolas Obin, Arshia Cont

Real-Time Audio-to-Score Alignment of Singing Voice

Based on Melody and Lyric Information

Interspeech, Dresden, Germany, September 2015

Wang Xin, Gong Rong

Consonance of Musical Dyads of Chinese Plucked Instruments

2nd International Conference on Computer Science and Network

Technology, ICCSNT, Changchun, China, 2012

Gong Rong, Meng Zihou

Analysis on Tonal Components of Plucked-String Instruments Tones

National Youth Conference of Acoustical Society of China, CYCA 9th

Guangzhou, China, November 2011

Gong Rong, Meng Zihou

Analysis on Feature Discrimination of Plucked-string Instruments Tones

National Conference on Man-Machine Speech Communication, NCMMSC2011

Xi'an, China, October 2011

LANGUAGES

Mandarin	Mother tongue
English	Diploma CLE B2
French	Diploma TCF B2
Spanish	Elementary

COMPUTER SKILLS

Programming	Python, Matlab, C++, Objective-C
Music Production	Ableton Live, Cubase

SUMMER JOBS

Socopa	2013
<i>Abattoir worker</i>	<i>Le Ferté-Bernards, France</i>

Le Château de Rochetaillée	2012
<i>Campsite pizza maker</i>	<i>Le Bourg d'Oisans, France</i>