

RONG GONG

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GOAL

I am looking for a job on MIR R&D starting from May 2019.

EDUCATION

MTG-Universitat Pompeu Fabra

May 2015-Sep 2018

PhD

Barcelona, Spain

Automatic assessment of singing voice pronunciation: a case study of jingju (Beijing opera) music

Mention: cum laude

<http://compmusic.upf.edu/phd-thesis-rgong>

UPMC/IRCAM/TELECOM

September 2013-September 2014

Master 2 ATIAM

Paris, France

Acoustics, Signal Processing and Computer Science in Musical Applications

Mention: Awarded with honours (Assez bien)

Thesis: Score following for the alignment of singing voice

Université du Maine

September 2012-July 2013

Master 1 in Acoustics and Signal processing

Le Mans, France

Acoustics, Signal Processing and Computer Science in Musical Applications

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

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

Communication University of China

September 2008-July 2011

Master in Acoustics, Psychoacoustics and Signal Processing

Beijing, China

Thesis: Analysis on timbre features of the plucked-string instruments

Northwest University

September 2004-July 2008

Bachelor in Applied Mathematics

Xi'an, China

RESEARCH EXPERIENCES

Jukedek

Nov 2018-April 2019

Internship

London, UK

- Develop de-reverberation and de-artefacts deep learning models.

MTG-UPF

Oct 2018

Essentia project

Barcelona, Spain

- Implement PYin (probabilistic Yin) pitch extraction algorithms in Essentia (Open-source library and tools for audio and music analysis, description and synthesis).

MTG-UPF

April 2018-Present

TECSOME project

Barcelona, Spain

- Develop automatic solfège assessment API using KALDI.

National Academy of Chinese Theatre Arts (NACTA) September 2016-Present
Project collaborator-Beijing City Social Science Foundation 16JDYTA016 *Beijing and Barcelona*

- Collect jingju singing recording materials of both professional and amateur singers.
- Develop iOS jingju singing courseware.

MTG-UPF May 2015-Sep 2018
CompMusic project *Barcelona, Spain*

- Develop algorithms for computer-aided jingu (Beijing opera) singing assessment system.
- Automatically retrieving Jingju singing features (syllable segmentation, singing phrase identification).

iOS developer October 2014-May 2015
iOS music application development *Paris, France*

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

IRCAM March 2014-August 2014
Master 2 internship *Paris, France*

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

Université du Maine March 2013-June 2013
Master 1 project *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 September 2010-September 2011
Master thesis work *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 November 2010-January 2011
Master internship *Dongguan, China*

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

SUMMARY OF COMPETENCES

Music Signal Processing

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

Machine Learning

▷ Deep learning (CNNs, RNNs). ▷ Gradient boosting machine. ▷ Data clustering (PCA, K-means, Decision tree). ▷ Bayesian inference (HMMs, HSMMs, CRFs).

Speech Technologies

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

Computer Music

▷ Digital filter VST plugins programming. ▷ Language LISP. ▷ Constraint programming. ▷ MIDI protocol.

ACADEMIC ACTIVITIES

Google Speech Summit traveling grant, London, May 2018

Task captain of MIREX 2018: Automatic Lyrics-to-Audio Alignment

ISMIR conference reviewer 2017, 2018

PUBLICATIONS IN CHRONOLOGICAL ORDER

Rong Gong, Xavier Serra

Singing Voice Phoneme Segmentation by Hierarchically Inferring Syllable and Phoneme Onset Positions
Interspeech, Hyderabad, India, September 2018

Eduardo Fonseca, Rong Gong, Xavier Serra

A Simple Fusion of Deep and Shallow Learning for Acoustic Scene Classification
Sound and Music Computing Conference (SMC), Limassol, Cyprus, July 2018

Eduardo Fonseca, Rong Gong, Dmitry Bogdanov, Olga Slizovskaia, Emilia Gomez, Xavier Serra

Acoustic Scene Classification by Ensembling Gradient Boosting Machine and Convolutional Neural Networks
2nd workshop on Detection and Classification of Acoustic Scenes and Events (DCASE), Munich, Germany, November, 2017

Rong Gong, Rafael Caro Repetto, Xavier Serra

Creating an A Cappella Singing Audio Dataset for Automatic Jingju Singing Evaluation Research
4th International Digital Libraries for Musicology workshop (DLfM 2017), Shanghai, China, October, 2017

Rong Gong, Xavier Serra

Identification of potential Music Information Retrieval technologies for computer-aided jingju singing training
Chinese traditional music technology session - China conference on sound and music technology, Suzhou, China, October, 2017

Rong Gong, Jordi Pons, Xavier Serra

Matching Audio to Score by Combining Phonetic and Duration Information
International Society for Music Information Retrieval Conference (ISMIR), Suzhou, China, October 2017

Jordi Pons, Rong Gong, Xavier Serra

Score-informed Syllable Onset Detection for A Cappella Singing Voice with Convolutional Neural Networks
International Society for Music Information Retrieval Conference (ISMIR), Suzhou, China, October 2017

Jordi Pons, Olga Slizovskaia, Rong Gong, Xavier Serra

Timbre Analysis of Music Audio Signals with Convolutional Neural Networks
European Signal Processing Conference (EUSIPCO), Kos island, Greece, August 2017

Rong Gong, Nicolas Obin, Georgi Dzhambazov, Xavier Serra

Score-informed Syllable Segmentation for Jingju A Cappella Singing Voice with Mel-frequency Intensity

Profiles

Folk Music Analysis (FMA), Málaga, Spain, June 2017

Rong Gong, Yile Yang, Xavier Serra

Pitch Contour Segmentation for Computer-aided Jingju Singing Training

Sound and Music Computing Conference (SMC), Hamburg, Germany, August 2016

Rafael Caro Repetto, Rong Gong, Nadine Kroher, Xavier Serra

Comparison of The Singing Style Of Two Jingju Schools

International Society for Music Information Retrieval Conference (ISMIR), Málaga, Spain, October 2015

Rong Gong, 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

Xin Wang, Rong Gong

Consonance of Musical Dyads of Chinese Plucked Instruments

2nd International Conference on Computer Science and Network

Technology, ICCSNT, Changchun, China, 2012

Rong Gong, Zihou Meng

Analysis on Tonal Components of Plucked-String Instruments Tones

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

Guangzhou, China, November 2011

Rong Gong, Zihou Meng

Analysis on Feature Discrimination of Plucked-string Instruments Tones

National Conference on Man-Machine Speech Communication, NCMMSC2011

Xi'an, China, October 2011

LANGUAGES

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|-----------------|----------------|
| Mandarin | Mother tongue |
| English | Diploma CLE B2 |
| French | Diploma TCF B2 |
| Spanish | B1 |

COMPUTER SKILLS

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| Programming | Python, Objective-C, Swift, Matlab, C |
| Machine learning and Deep learning packages | Keras, Tensorflow, Scikit-learn |
| Speech analysis and recognition tools | KALDI, Praat |
| Music Production | Ableton Live, Cubase |