

Andre Holzapfel

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CITIZENSHIP	German	
RESEARCH INTERESTS	Music information retrieval, signal analysis, voice processing, ethnomusicology	
EDUCATION	University of Crete , Heraklion, Greece P.h.D., Computer Science, March 2010 <ul style="list-style-type: none">• Thesis topic: Similarity methods for computational ethnomusicology• Advisor: Yannis Stylianou• Area of Study: Music Information Retrieval M.S., Computer Science, September 2006 <ul style="list-style-type: none">• Thesis topic: A component based music classification approach• Advisor: Yannis Stylianou• Area of Study: Music Information Retrieval University of Applied Sciences Duesseldorf , Duesseldorf, Germany Diplomingenieur, Media Technology, July 2004 <ul style="list-style-type: none">• Thesis Topic: Development of a classifier for a speech recognition system based on a Relevance Vector Machine• Advisor: Professor H.G. Meier• Area of Study: Speech Recognition	
PROFESSIONAL EXPERIENCE	Creamware Datentechnik , Siegburg, Germany <i>Practical Training</i> March 2002 to September 2002 <ul style="list-style-type: none">• Music Software Engineering• Prototyping of a real time guitar amplifier emulation including speaker emulation. <i>Software Developer</i> September 2002 to February 2003 <ul style="list-style-type: none">• Completion of implementation of amplifier emulations• Software packages published later on by Creamware Technological Educational Institute of Crete, Dept. of Music Technology & Acoustics , Rethymnon, Greece <i>Lecturer</i> from October 2009 to June 2010 <ul style="list-style-type: none">• Audio & Music Programming Environments (Csound, Pd)• Sound Synthesis II (Max/MSP)• Multimedia Applications (Photoshop, Director) Austrian Research Institute for Artificial Intelligence (OFAI) , Vienna Austria <i>Researcher</i> from September 2010 to February 2011 <ul style="list-style-type: none">• Improvement of rhythmic content descriptors for music similarity• Background music detection in broadcast news	

INESC Porto, Porto, Portugal

Researcher

from April 2011

- Signal representations for beat tracking and rhythmic similarity
- Tools for music generation
- Automatic recognition of rhythmically complex music samples

PROJECTS/
EXCHANGES

eNTERFACE'06, Dubrovnik, Croatia

Multimodal Character Morphing

July-August 2006

eNTERFACE'07, Istanbul, Turkey

*Realtime and Accurate Musical Control
of Expression in Singing Synthesis (RAMCESS)*

July-August 2007

Izmir Institute of Technology, Dept. of Electrical and Electronics Engineering,
Izmir, Turkey

*Ersamus exchange, Subjects: musical instrument onset detection,
theory and practice of classical Ottoman music*

July-September 2008

SKILLS

Well founded theoretical background in signal processing and pattern recognition, as well as coding theory and psychoacoustics.

Musical experience: 20 years of experience in guitar and oud (rock, traditional), singing lessons both in classical western and Ottoman music

Programming languages: C, C++, Java, Csound, matlab

Applications: \LaTeX , matlab, PSpice, Max/MSP, Native Instruments Reactor, Logic Audio

Languages: German, English, Greek

PUBLICATIONS

JOURNALS

Andre Holzapfel and Yannis Stylianou. Musical genre classification using Non-negative Matrix Factorization based features. Special Issue of IEEE Transactions on Audio, Speech and Language Processing on Music Information Retrieval, Vol. 16, Nr.2, pp. 424-434, 2008.

Andre Holzapfel and Yannis Stylianou and Ali C. Gedik and Barış Bozkurt. Three dimensions of pitched instrument onset detection. IEEE Transactions on Audio, Speech and Language Processing, Vol. 18, Nr.6, pp. 1517-1527, 2010.

Andre Holzapfel and Yannis Stylianou. Scale transform in rhythmic similarity of music. IEEE Transactions on Audio, Speech and Language Processing, Vol. 19, Nr.1, pp. 176-185, 2011.

CONFERENCES

Andre Holzapfel and Yannis Stylianou. A statistical approach to musical genre classification using Non-negative Matrix Factorization. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Honolulu, USA, 2007.

T. Dutoit, A. Holzapfel, M. Jottrand, A. Moinet, J. Perez and Y. Stylianou. Towards a voice conversion system based on frame selection. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Honolulu, USA, 2007.

Andre Holzapfel and Yannis Stylianou. Singer identification in Rembetiko music. Sound and Music Computing Conference (SMC), Lefkada, Greece, 2007.

Andre Holzapfel and Yannis Stylianou. Rhythmic similarity based on Dynamic Periodicity Warping. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Las Vegas, USA, 2008.

Andre Holzapfel and Yannis Stylianou. Beat tracking using group delay based onset detection. International Society for Music Information Retrieval Conference (ISMIR), Philadelphia, USA, 2008.

Maria Markaki, Andre Holzapfel and Yannis Stylianou. Detection of singing voice activity using modulation frequency features. ISCA Workshop on Statistical And Perceptual Audition, Brisbane, Australia, 2008.

Andre Holzapfel and Yannis Stylianou. A scale transform based method for rhythmic similarity of music. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Taiwan, 2009.

Andre Holzapfel and Yannis Stylianou. Rhythmic similarity in traditional Turkish music. International Society for Music Information Retrieval Conference (ISMIR), Kobe, Japan, 2009.

Emmanouil Benetos and Andre Holzapfel and Yannis Stylianou. Pitched instrument onset detection based on auditory spectra. International Society for Music Information Retrieval Conference (ISMIR), Kobe, Japan, 2009.

Andre Holzapfel and Yannis Stylianou. Parataxis: Morphological similarity in traditional music. International Society for Music Information Retrieval Conference (ISMIR), Utrecht, Netherlands, 2010.

Andre Holzapfel and Arthur Flexer and Gerhard Widmer. Improving tempo-sensitive and tempo-robust descriptors for rhythmic similarity. Sound and Music Computing Conference (SMC), Padova, Italy, 2011.

Andre Holzapfel and Gino Angelo Velasco and Nicki Holighaus and Monika Dörfler and Arthur Flexer. Advantages of nonstationary Gabor transforms in beat tracking, Proc. of ACM Multimedia, Scottsdale, Arizona, USA, 2011.

Andre Holzapfel and Matthew Davies and Jose Ricardo Zapata and Joao Lobato Oliveira and Fabien Gouyon. On the automatic identification of difficult examples for beat tracking: towards building new evaluation datasets. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Kyoto, Japan, 2012.