

Nuno Miguel da Costa Santos Fonseca

Summary

- Professor at Polytechnic Institute of Leiria (Portugal).
- Invited Professor at Escola Superior de Música de Lisboa (Portugal).
- PhD in Computer Engineering (computer audio)
- Author of 2 books ("Desenvolvimento em iOS", "Introdução à Engenharia de Som")
- Creator of "SoundParticles" software, which is under tests in major Hollywood Studios, being already used in several movies.
- Creator of "WordBuilder™" software, distributed by EASTWEST (Hollywood, USA), and used by composers in several movies, TV series and games.
- Former president of the Portuguese section of Audio Engineering Society (AES).
- Creator of several apps and games, available at App Store.
- Member of AES (Audio Engineering Society) and SMPTE (Society of Motion Pictures and Television Engineers).
- Member of AES Technical Committee on Spatial Audio (TC-SA) and AES Technical Committee on Digital Cinema and Television (TC-DCT).

Education

2012

PhD in Computer Engineering

Faculdade de Engenharia da Universidade do Porto

"Singing Voice Resynthesis using Concatenative-based Approaches", oriented by Anibal Ferreira, Ana Paula Rocha.

2003

Masters in Computer Engineering

Faculdade de Ciências e Tecnologia da Universidade de Coimbra

"Fault-Tolerant MPI Farm Library", oriented by João Gabriel Silva.

1998

Degree in Electronics and Computer Engineering

Instituto Superior Técnico - Universidade Técnica de Lisboa

Final Project: "Previsão acústica de salas usando modelo de fonões", oriented by Bento Coelho.

Current

2001 - (present)

Professor (Computer Engineering)

ESTG, Polytechnic Institute of Leiria

Member of the Computer Engineering Department (DEI).

Coordinator of the "Digital Games and Multimedia" undergraduate course.

2012 - (present)

Invited Professor (Music Technologies)

Escola Superior de Música de Lisboa, Polytechnic Institute of Lisbon

Teaching computer-related topics in "Music Technologies" undergraduate course.

Past Experience

2012 - 2014

President

Portuguese section of Audio Engineering Society (AES)

2002 - 2012

Research/Software Developer

EASTWEST (USA)

Collaboration with EASTWEST as researcher and developer of text-to-sing solutions.

1998 - 2001

Senior Systems Engineer

LeiriSic S. A. (PT)

Server related software and hardware, Communications. Microsoft MCP, MCSE, MSS; Cisco CCNA, CCDA, CSE; 3Com 3Star; Compaq ACT, ASE.

1998 - 2001

Teacher

ISLA Leiria (PT)

Books

2012

Desenvolvimento em iOS

Nuno Fonseca, Catarina Reis, Catarina Silva, Luis Marcelino, Vitor Carreira

1st edition (2012) - 3rd edition (2013), FCA

2007

Introdução à Engenharia de Som

Nuno Fonseca

1st edition (2007) - 6th edition (2013), FCA

Journals

2009

White Paper: Best Practices in Network Audio

Bouillot, N., Cohen, E., Cooperstock, J. R., Floros, A., Fonseca, N., Foss, R., Goodman, M., Grant, J., Gross, K., Harris, S., Harshbarger, B., Heyraud, J., Jonsson, L., Narus, J., Page, M., Snook, T., Tanaka, A., Trieger, J., Zanghieri, U., Journal of Audio Engineering Society, Volume 57 Issue 9 pp.; September 2009.

Workshops

2015

Applications and Challenges of Object-Based Audio - Sound Design Using Particles Systems and Virtual Microphones

Nuno Fonseca, 57th AES Conference – The Future of Audio Entertainment Technology, Los Angeles, USA, March 2015.

Engineering Briefs

2015

Immersive Sound Design Using Particle Systems

Nuno Fonseca, 138th AES Convention, Warsaw, Poland, May 2015.

Conference Papers

2014

Particle Systems for Creating Highly Complex Sound Design Content

Nuno Fonseca, 137th Audio Engineering Society (AES) Convention; Los Angeles, USA, October 2014.

2014

Impulse Response Upmixing Using Particle Systems

Nuno Fonseca, 137th Audio Engineering Society (AES) Convention; Los Angeles, USA, October 2014.

2014

Camera Reading For Blind People

Roberto Neto, Nuno Fonseca, HCist 2014 - International Conference on Health and Social Care Information Systems and Technologies; Troia, Portugal, October 2014.

2013

3D Particle Systems For Audio Applications

Nuno Fonseca, 16th International Conference on Digital Audio Effects (DAFx-13); Maynooth, Ireland, September 2013.

2012

Re-síntese Concatenativa de Instrumentos Musicais

Tiago Ricardo, Nuno Fonseca, Pedro Assunção, 14th meeting of the Portuguese Section of Audio Engineering Society; Porto, Portugal, November 2012.

2011

Re-Síntese Concatenativa de Voz Cantada

Nuno Fonseca, Anibal Ferreira, Ana Paula Rocha, inForum 2011, Coimbra, Portugal, September, 2011.

2011

Concatenative Singing Voice Resynthesis

Nuno Fonseca, Anibal Ferreira, Ana Paula Rocha, DSP 2011 - 17th International Conference on Digital Signal Processing; Corfu, Greece, July 2011.

2010

A Singing Voice Resynthesis Approach

Nuno Fonseca, Anibal Ferreira, 12th meeting of the Portuguese Section of Audio Engineering Society; Aveiro, Portugal, October 2010.

2010

Singing Voice Resynthesis using Vocal Sound Libraries

Nuno Fonseca, Anibal Ferreira, 13th International Conference on Digital Audio Effects (DAFx-10); Graz, Austria, September 2010.

2009

Measuring Music Transcription Results Based on a Hybrid Decay/Sustain Evaluation

Nuno Fonseca, Anibal Ferreira, ESCOM 2009 - 7th Triennial Conference of European Society for the Cognitive Sciences of Music; Finland, 2009.

2008

A Genetic Algorithm Approach with Harmonic Structure Evolution for Polyphonic Music Transcription

Gustavo Reis, Nuno Fonseca, Francisco Fernandez de Vega, Anibal Ferreira, ISSPIT 2008 - IEEE Symposium on Signal Processing and Information Technology; Sarajevo, Bosnia & Herzegovina, December 2008.

2008

Fragmentation and Frontier Evolution for Genetic Algorithms Optimization in Music Transcription

Nuno Fonseca, Ana Paula Rocha, Iberamia 2008 - 11th Ibero-American Conference on AI, Springer LNAI 5290; Lisbon, Portugal, October 2008.

2008

Hybrid Genetic Algorithm Based on Gene Fragment Competition for Polyphonic Music Transcription

Gustavo Reis, Nuno Fonseca, Francisco Fernandez de Vega, Anibal Ferreira, Evolasp 2008 - 10th Workshop on Evolutionary Computation in Image Analysis and Signal Processing ; Springer LNCS 4974; Naples, Italy, March 2008.

2007

Genetic Algorithm Approach to Polyphonic Music Transcription

Gustavo Reis, Nuno Fonseca, Francisco Fernandez de Vega, WISP 2007 - IEEE International Symposium on Intelligent Signal Processing; Alcala de Henares, Spain, October 2007.

2007

Grapheme-to-phoneme conversion using recurrent neural networks

Nuno Fonseca, CoMIC'07 - 2nd Conference on Methodologies for Scientific Research; Porto, Portugal, February 2007.

2005

Latency Issues in Audio Networking" (a.k.a. "Latency problems in Audio Networks)

Nuno Fonseca, Edmundo Monteiro, 118th Audio Engineering Society Convention; Barcelona, 2005.

2003

MPI Farm programs on non-dedicated clusters

Nuno Fonseca, João Gabriel Silva, EuroPVM/MPI 03; Springer LNCS 2840; Venice, Italy, September 2003.

2003

Latency in Audio Ethernet Networks

Nuno Fonseca, Edmundo Monteiro, 114th Audio Engineering Society Convention; Amsterdam, Netherlands, March 2003.

2003

Remote Interface for Audio Devices (RIAD)

Nuno Fonseca, Edmundo Monteiro, 114th Audio Engineering Society Convention; Amsterdam, Netherlands, March 2003.

2003

VOTA Utility: Making the computer sing

Nuno Fonseca, 114th Audio Engineering Society Convention; Amsterdam, Netherlands, March 2003.

2002

Foundations for Sound over Ethernet (SoE)

Nuno Fonseca, 112th Audio Engineering Society Convention; Munich, Germany, May 2002.

iTunes U Courses

2013

iOS Game Development (Summer School 2012)

Nuno Fonseca, Luis Marcelino, Vitor Carreira, Catarina Reis, Catarina Silva - iTunes U

Sessions of the International Summer School on iOS Game Development 2012.

2013

Comunicação Visual e Design Gráfico

Nuno Fonseca - iTunes U

Course regarding visual communication and graphic design.

2012

Sistemas Multimédia

Nuno Fonseca - iTunes U

Course regarding multimedia systems.

2011

Desenvolvimento iOS

Catarina Reis, Catarina Silva, Luis Marcelino, Nuno Fonseca, Vitor Carreira - iTunes U

Course regarding iOS development.

Audio Software

2014

Sound Particles (public beta)

Nuno Fonseca

Particle system software for audio applications.

2005

WordBuilder (EW/QL Symphonic Choirs)

EASTWEST

Part of "EASTWEST/Quantum Leap Symphonic Choirs". Originally available for Windows (standalone, VST-MA, MFX) and Mac OS X (standalone, VST-MA). Currently integrated with PLAY engine.

2002

Voices of the Apocalypse Utility

Nuno Fonseca, EASTWEST

Requires "Quantum Leap - Voices of the Apocalypse" sound library (discontinued).

Mobile Software

2012

Menino Cristal

ImagineWords - iTunes App Store

The digital version of the children's book with the same name (discontinued).
Software and music by Nuno Fonseca.

2012

Family Finger Race Free

Nuno Fonseca (Software Adventures) - iTunes App Store

The free version of "Family Finger Race".

2012

Family Finger Race

Nuno Fonseca (Software Adventures) - iTunes App Store

A finger race for the all family. Graphics created by the italian designer Danilo Sanino. Reached #1 in Kids Games (Portugal).

2011

Jane Austen - Fan Kit

Nuno Fonseca (Software Adventures) - iTunes App Store

Quotes, eBooks, Movie Suggestions, Trivia, everything for a Jane Austen's Fan! Reached Top100 Books in 6 countries including USA, UK, Australia.

2011

State Names

Nuno Fonseca (Software Adventures) - iTunes App Store

A very simple app to see if you remember the name of the 50 states.