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CURRICULUM VITAE

- Education:**
- PhD in Electrical Engineering, University of Southern California (USC), Los Angeles, CA, 2008.
Thesis: "Statistical Enhancement Methods for Immersive Audio Environments and Compressed Audio"
 - MSc in Electrical Engineering, University of Southern California (USC), Los Angeles, CA, 2003.
 - BSc in Physics, minor in Telecommunications, National University of Athens, Greece, 2002.
Thesis: "Development of Visual C++ Code for the Analysis of Electromagnetic Phenomena in Waveguides"
- Current Employment:**
- Assistant professor, Dept. of Automation, Technological Education Institute (TEI) of Piraeus, Athens, Greece, since 05/2010.
- Research Interests:**
- Digital and statistical signal processing
 - Audio and speech processing
 - Data acquisition and compression
 - Pattern recognition and signals classification
- Research Experience:**
- TEI of Piraeus, "Archimedes III – Integrated Electronic System Development, Embedded in Fabric, for the Measurement and Wireless Transmission of Biological Signals," 01//07/2012 - today.
 - TEI of Piraeus, "Promoting Support of Academic Institutions to Young Farmers (code 80127): Development of Precision Agriculture system operating on wireless data," funded by the Greek General Secretariat of Youth, 01/01/2011 - 31/10/2012
 - TEI of Piraeus, "FP6 - More Open Electrical Technologies," subtask "WP 7.21 Task 3 Modeling infrastructure model gathering and adaptation," funded by the European Union 6th Framework program, (FP6), 01/01/09 - 31/07/09.
 - TEI of Piraeus, "System Design for Human-Machine Interface of Fuel Injection Engines," subtask "Measurements and Processing of Electrical Engine Signals," 01/06/2008 - 31/12/2008.

- Immersive Audio Laboratory, Integrated Media Systems Center (IMSC), University of Southern California. Project funded in part by the Integrated Media Systems Center, a National Science Foundation (NSF) Engineering Research Center, Cooperative Agreement No. EEC-9529152 and in part by the US Army Research, Development, and Engineering Command (RDECOM). Proposed and implemented a new method on multichannel audio compression and developed a new estimation technique for modeling audio signal features. Proposed and implemented a novel audio enhancement algorithm for compressed audio signals via statistical transformations. Proposed and implemented a novel audio synthesis algorithm to address audio enhancement with minimal prior information of the desired signal based on a combination of data-driven approaches and statistical transformation methods, 05/2005 – 06/2008.
- Space Laboratory, California State University, Los Angeles. Project “Segmented Space Telescope” funded by NASA as part of the JWST Telescope. Designed and implemented control algorithms as part of a three-member team. Responsible for designing and implementing a ray-tracing application for simulating the optical ray path on the telescope testbed, 09/2002 – 04/2005.

Teaching Experience:

- Assistant professor, Dept. of Automation, TEI of Piraeus, undergraduate courses (including labs) “Digital Signal Processing” and “Electrical and Electronic Measurements”, 05/2010 – today.
- Assistant professor, Dept. of Automation, TEI of Piraeus, graduate course “Digital Communications” of the “Msc in Networking and Data Communications” of TEI Piraeus in collaboration with Kinston University, London, 10/2010 – 02/2013.
- Teaching Assistant, Dept. of Electrical Engineering, University of Southern California for the course “Linear Algebra,” fall semester 2008.
- Grader, Dept. of Electrical Engineering, University of Southern California for the course “Introduction to Computer Networks,” spring semester 2005.

Publications in Journals:

- D. Cantzos, “Psychoacoustically-Driven Multichannel Audio Coding,” Journal of Computations and Modelling, Vol. 3, no. 2, pp.95-110, 2013.
- D. Cantzos, “Towards a Complete Algorithm on Synthesis of Enhanced Audio from Low Bitrate Compressed Audio,” International Journal of Engineering and Management vol. 1 no. 2, 2009.
- D. Cantzos, A. Mouchtaris, and C. Kyriakakis, “Quality Enhancement of Compressed Audio Based on Statistical Conversion,” Eurasip Journal on Audio, Speech and Music Processing, Vol. 2008, Article ID 462830.
- A. Khoshafian, H. Boussalis, S. Fallorina, E. Velazquez, K. Rad, C. Liu, D. Cantzos, ‘Application of Decentralized Control on a Segmented Reflected Testbed,’ WSEAS Journal of Transactions on Systems, Issue 5, Vol. 3, pp.2215-2222, July 2004.

Publications in peer-reviewed conference proceedings:

- D. Cantzos, D. Dimogianopoulos and D. Tseles, "ECG Diagnosis via a Sequential Recursive Time Series – Wavelet Classification Scheme," IEEE Proc. Eurocon Conference, Zagreb, Croatia, July 2013.
- D. Cantzos, A. Mouchtaris and C. Kyriakakis, "Perceptually-Driven Scalable MDCT Enhancement of Compressed Audio Based on Statistical Conversion," IEEE Proc. International Symposium on Multimedia (ISM), Dana Point, CA, USA, pp.41-47, December 2011.
- D. Cantzos, A. Mouchtaris and C. Kyriakakis, "Bandwidth Extension of Low Bitrate Compressed Audio Based on Statistical Conversion," IEEE Proc. 10th International Conference on Multimedia and Expo (ICME), New York, NY, pp. 97-100, July 2009.
- D. Cantzos, A. Mouchtaris and C. Kyriakakis, "Synthesis of Enhanced Audio from Low Bitrate Compressed Audio Based on Unit Selection and Statistical Conversion Methods," IEEE Proc. 42nd Asilomar Conference on Signals and Systems, Pacific Grove, CA, pp. 2174-2179, October 2008.
- D. Cantzos, A. Mouchtaris and C. Kyriakakis, "Enhanced Multichannel Audio Resynthesis through Residual Processing and Features Alignment," IEEE Proc. 8th International Conference on Multimedia and Expo (ICME), Beijing, China, pp. 1267-1270, July 2007.
- D. Cantzos, A. Mouchtaris and C. Kyriakakis, "Multichannel Audio Resynthesis Based on a Generalized Gaussian Mixture Model and Cepstral Smoothing," IEEE Proc. 7th Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA), New York, NY, pp. 215-218, October 2005.
- D. Cantzos, and C. Kyriakakis, "Quality Enhancement of Low Bit Rate MPEG1-Layer 3 Audio Based on Audio Resynthesis," 119th AES Convention, New York, NY, preprint No. 6569, October 2005.
- A. Khoshafian, H. Boussalis, S. Fallorina, E. Velazquez, K. Rad, C. Liu and D. Cantzos, "Decentralized Control of a Segmented Reflector Testbed," IEEE Proc. 47th International Midwest Symposium on Circuits and Systems, Hiroshima, Japan, pp. 211-214, July 2004.

Programming Skills:

- C, Visual C++, Matlab, Labview, Socket programming, Mathematica, Mathcad, R, HTML.

Awards::

- Graduate Teaching Assistantship Dept. of Electrical Engineering, University of Southern California, fall semester 2008.
- Graduate Research Assistantship, Dept. of Electrical Engineering, University of Southern California, 05/2005 – 06/2008.
- Gerondelis Foundation Scholarship, 2003.

Memberships:

- Member, IEEE - Signal Processing Society.

Languages :

- Greek (native speaker)
- English (Cambridge Proficiency, 1995)
- German (Zertifikat Grundstufe, 1995)