

Alexander Iliev

QUALIFICATION HIGHLIGHTS

- Patented research led to commercially sold licenses
- Research experience in Data Analytics, Digital Audio, Speech and Signal Processing, Psychoacoustics
- Well versed in working with Machine Learning, Neural Networks, Classification and Pattern Recognition
- Publication record including journal articles, conference listings and a published monograph
- Industry experience with connected devices, multimedia and internet related technologies
- Teaching experience at the University of Miami and UC Berkeley Extension
- Thesis Committee member at the School of Communication, University of Miami
- Experienced in Python (NumPy, SciPy), Matlab, Unix/Linux environment, Android Development

EDUCATION

University of Miami, Coral Gables FL, USA

Ph.D. in Electrical and Computer Engineering, 2009, Area: Emotion Recognition in Speech

M.S. in Music Engineering Technology, 1999, Area: Audio Watermarking for DRM and Data Hiding

Ivan Rilski University, Sofia, Bulgaria

M.S. in Electrical Engineering, 1996

Technical University, Sofia, Bulgaria

Associate Degree in Multimedia Technologies, 1996

ACADEMIC WORK EXPERIENCE

UC Berkeley Extension CA, USA

Data Science Lecturer, Sep.2012 – current

- Python for Data Analysis and Scientific Computing (COMPSCI-X433.3) - *current*
- Introduction to Matlab (EL-ENG-X446.7) - *past*

Bulgarian Academy of Sciences, Bulgaria

Assistant Professor at Software Engineering and Information Systems Department, Nov.2014 – current

- Conducting research in the area: Emotion Recognition from Speech and Audio Signals
- Applying Python and Android Development for practical scientific applications

University of Miami, Coral Gables FL, USA

Software Engineer, Aug. 2000 – Jun. 2010

- Research in Digital Right Management (DRM) field using Audio Watermarking
- Research in Emotion Recognition in Digital Speech
- Designed C++ based application for parsing and compiling of novel programming platform

Stealth Media Labs, Chicago IL, USA

Consulting Scientist, Aug. 2001 – Sep. 2002

- Contributed in product development based on research titled “Auxiliary Channel Masking Based on the Joint Stereo Encoding of the Short-Time Phase Spectrum of Audio Signals”
- Actively involved in strategy improvement decisions directly impacting product development

OTHER WORK EXPERIENCE

bTV – Time Warner, Bulgaria

Director of Internet Business Unit, Nov.2012 – July.2014

Gracenote - SONY Corporation, Emeryville CA, USA

Product Manager, July. 2010 – April.2012

PATENTS

- “Coding a Masked Data Channel in a Radio Signal” Inventors: A.I. Iliev, M. S. Scordilis and H. Leventhal, U.S. Patent No. 7,079,633 B2, awarded on July 18, 2006
- “Auxiliary channel masking in an audio signal”, U.S. Patent No. 6,996,521 B2, Inventors: A.I. Iliev and M. S. Scordilis, Assignee: University of Miami, awarded on February 07, 2006

RESEARCH EXPERIENCE

- Emotion recognition in speech using glottal information and prosodic features
- Watermarking and data hiding using speech and audio signals based on psychoacoustic modeling
- Machine learning, Classification, Data Analysis, Signal Processing, Psychoacoustics, Speech and Audio Signals

PUBLICATIONS

- Iliev, A.I., Stanchev, P., "Personalizing content using voice in a digital asset ecosystem", IJRSET International Journal of Innovative Research in Science, Engineering and Technology, Vol. 5, Issue 12, pp. 20260-20267, December 2016
- Iliev, A.I., "Emotion Recognition in Speech using Inter-Sentence Time-Domain Statistics", IJRSET International Journal of Innovative Research in Science, Engineering and Technology, Vol. 5, Issue 3, pp. 3245-3254, March 2016
- Iliev, A.I., "Feature vectors for emotion recognition in speech", National Informatics Conference, Sofia, Bulgaria, 2016, pp. 225-238
- Iliev, A.I., "Emotion Recognition From Speech", Monograph, Lambert Academic Publishing, 2012
- Iliev, A.I., Scordilis, M.S., "Spoken Emotion Recognition Using Glottal Symmetry", EURASIP Journal on Advances in Signal Processing, Volume 2011, Article ID 624575
- Iliev, A.I., Scordilis, M.S., Papa J.P., Falcão A.X., "Spoken emotion recognition through optimum-path forest classification using glottal features", Journal on Computer Speech and Language, ELSEVIER, Vol. 24, Issue 3, 2010, pp. 445-460
- Iliev, A.I., Scordilis, M.S., "Emotion Recognition in Speech using Inter-Sentence Glottal Statistics", Proceedings of the 15th International Conference on systems, Signals and Image Processing, IEEE-IWSSIP 2008, Bratislava, Slovakia, June 25-28, 2008, pp. 465-468
- Iliev, A.I., Zhang, Y., Scordilis, M.S., "Spoken Emotion Classification Using ToBI Features and GMM", Proceedings of the 14th International Workshop on Signals and Image Processing 2007 and the 6th EURASIP Conference focused on Speech and Image Processing, Multimedia Communications and Services. IEEE-IWSSIP 2007, Maribor, Slovenia, June 27-30, 2007, pp. 495-498
- Iliev, A.I., He, X., Scordilis, M.S., "A High Capacity Watermarking Technique for Stereo Audio", Proceedings of the IEEE International Conference on Acoustics Speech and Signal Processing, ICASSP2004, Montreal, Canada, 17-24 May 2004, Vol. 5, pp. 393-396
- Iliev, A.I., Scordilis, M.S., "Multi level High Capacity Data Hiding Technique for Stereo Audio", Proceedings of the 2004 IEEE-Asilomar Conference, Pacific Grove, California, November 7-10, 2004, pp. 1793-1797
- Jin, W., Scordilis, M.S., Iliev, A.I., "Comparison and implementation of a 16-bit fixed point audio resampler", Proceedings of the 2004 IEEE-Asilomar Conference, Pacific Grove, California, November 7-10, 2004, pp. 1798-1800
- Iliev, A.I., Scordilis, M.S., "Binaural Phase Masking Experiments in Stereo Audio", Proceedings of the First Pan-American/Iberian Meeting on Acoustics, Cancun, Mexico, The Journal of the Acoustical Society of America, Nov.01.2002, Vol.112, Issue 5, pp. 2273-2274

EDITORIAL RESPONSIBILITIES

- IEEE Signal Processing Letters: Speech Coding, Synthesis and Analysis; Speech Processing "Characterization of Glottal Activity from Speech Signals", Volume: 16, Issue: 6, pages: 469 – 472, ISSN: 1070-9908, June 2009
- EURASIP Journal on Advances in Signal Processing, "Recognition of Non-Prototypical Emotions in Reverberated and Noisy Speech by Non-Negative Matrix Factorization", 16 pages, Article ID 838790, January 23, Volume 2011
- APESM Australasian Physical & Engineering Sciences in Medicine, "Study of Bispectral features and Mean shift clustering for stress and emotion classification from natural speech", Manuscript APES-D-15-00271, 39 pages, 2016
- JITR Journal of Information Technology Research, "Factors for the management of scarce human resources and highly skilled employees", 22 pages, January 2016

TEACHING EXPERIENCE

Lecturer, UC Berkeley Extension

- Introduction to Matlab (EL-ENG-X446.7), *Sep.2012, June.2014, March.2015*
- Python for Data Analysis and Scientific Programming (EL-ENG-X446.7), *2015 - current*

Lecturer, College of Engineering, University of Miami, 2006

- Architectural Acoustics (CAE380)

Lecturer, School of Communication, University of Miami, 2002 – 2005

- Advanced Audio Production for Film and Video (CMP594)
- Advised, coordinated, and supervised as member of the thesis committee

FELLOWSHIPS HONORS AWARDS

- Fellowship from the Provost at University of Miami, *May.2006*
- Honor Society “Eta Kappa Nu”, *Nov.2006*
- Senator of the Graduate Student Association, *2007-2009*
- Best Attendance Award at UM, 1st: *Jun-Dec.2003*; 2nd: *Jan-Jun.2004*
- AES Educational Foundation Stipend, *Jul.1998-1999*

PROFESSIONAL SOCIETIES

- IEEE (2008)
- Acoustical Society of America (2002)
- Audio Engineering Society (1997)
- Project Management Institute (2007)

SKILLS

- Python (NumPy, SciPy, Matplotlib, etc.), Matlab, Unix/Linux, Android Development

LANGUAGES

- Native Bulgarian speaker
- Working knowledge of Russian and Spanish

ACTIVITIES

- Climber (Mount Kilimanjaro, Mont Blanc, Mount Elbrus, Mount Whitney)
- Rescue Scuba Diver: NAUI and PADI Certified

RESEARCHER IDs:

- ORCID: orcid.org/0000-0002-4220-3637
- ResearcherID: R-4527-2016
- Scopus Author ID: 7003306764
- Google Scholar: Alexander Iliev, Ph.D.