Nikolaos (Nikos) Flemotomos

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RESEARCH INTERESTS	Speech Recognition, Speaker Diarization and Role Recognition, Machine Learning

EDUCATION

Ph.D., Electrical Engineering   started Aug 2016
University of Southern California, Los Angeles, CA, U.S.A.
Current GPA: 3.95/4.00

M.Sc., Electrical Engineering   expected Dec 2018
University of Southern California, Los Angeles, CA, U.S.A.
Current GPA: 4.00/4.00

Diploma (5-years degree)**, Electrical and Computer Engineering**   Apr 2016
National Technical University of Athens, Athens, Greece
Thesis: *Robust Acoustic Features for Distant Speech Recognition*
GPA: 9.34/10.00

WORKING EXPERIENCE

University of Southern California, Los Angeles, CA, U.S.A
Signal Processing and Interpretation Laboratory (SAIL)
Graduate Research Assistant   May 2017 to present
Supervisor: Prof. Shrikanth Narayanan
- Combining Speaker Role Recognition (SRR) with other speech processing modules (e.g. diarization, speech recognition) in order both to improve the performance of SRR itself and to provide useful information to the module it is combined with.
- Leading the team that develops a real-world system which, after processing recordings of psychotherapy sessions, gives feedback to the therapist. This is used in practice for computer-aided therapist training.

Czech Technical University in Prague, Prague, Czech Republic
Biomedical Data and Signal Processing Group (BioDat)
Research Intern   Mar 2016 to Jun 2016
Supervisor: Assoc. Prof. Lenka Lhotska
- Developed a novel algorithm for automatic sleep staging from polysomnographic signals, motivated by ideas used in speech recognition.

National Technical University of Athens, Athens, Greece
Computer Vision, Speech Communication and Signal Processing Group (CVSP)
Undergraduate Research Assistant   Feb 2015 to Mar 2016
Supervisor: Prof. Petros Maragos
- Explored the Teager-Kaiser Energy Operator for energy estimation in speech signals.
- Did a comparative study of acoustic feature sets for single-microphone distant speech recognition, with an emphasis to those based on the AM-FM speech model.

SOFTWARE SKILLS

Programming Languages:
Python, UNIX shell scripting, MATLAB, C   *extensive experience*
C++, Java, ML, R, Prolog, SQL   *familiarity*

Tools:
Kaldi Speech Recognition Toolkit, OpenFST library, Tensorflow, Keras Deep Learning library, LaTeX

CONFERENCE
PUBLICATIONS

1. **N. Flemotomos**, Z. Chen, D.C. Atkins, and S. Narayanan, "Role Annotated Speech Recognition for Conversational Interactions", *2018 IEEE SLT Workshop.* (accepted)

2. **N. Flemotomos**, P. Papadopoulos, J. Gibson, and S. Narayanan, "Combined Speaker Clustering and Role Recognition in Conversational Speech", *Proc. Interspeech 2018.*

3. **N. Flemotomos**, V.R. Martinez, J. Gibson, D.C. Atkins, T.A. Creed, and S. Narayanan, "Language Features for Automated Evaluation of Cognitive Behavior Psychotherapy Sessions", *Proc. Interspeech 2018.*

4. K. Singla, Z. Chen, **N. Flemotomos**, J. Gibson, D. Can, D.C. Atkins, and S. Narayanan, "Using Prosodic and Lexical Information for Learning Utterance-level Behaviors in Psychotherapy", *Proc. Interspeech 2018.*

GRADUATE
COURSEWORK

Random Processes, Probability, Statistics, Pattern Recognition, Deep Learning, Machine Learning from Signals, Machine Learning Theory, Mathematics of High-Dimensional Data

AWARDS AND
DISTINCTIONS

Annenberg Ph.D Fellowship   Aug 2016 to present
University of Southern California

Travel Grant   Sep 2018
International Speech Communication Association (ISCA)

Honorable Mention   Sep 2010
4th International Olympiad on Astronomy and Astrophysics, Beijing, China

3rd Award of Success   Mar 2010
15th Pan-Hellenic Student Competition on Astronomy and Space Engineering

TEACHING
EXPERIENCE

Society of Astronomy and Space, Volos, Greece
Teaching Assistant   Summer 2011 & 2012
Preparation for the International Olympiad on Astronomy and Astrophysics

SERVICE AND
VOLUNTARY
WORK

Hellenic Student Association of USC
Student volunteer and board member   Jan 2018 to present

IEEE Engineering in Medicine & Biology Society NTUA Student Chapter
President   Sep 2014 to Jun 2015
- Inaugurated partnership with the Scientific Society of Medical Students in Greece.
- Co-organized and supervised events aiming at the dissemination of the scientific knowledge of Bioengineering and the cooperation between students, professors, and researchers, such as Apps4Med, a 2-week-long event focused on mobile health app development, with workshops, presentations, and a hackathon on mHealth apps.

Student volunteer   Sep 2013 to Jun 2014

7th International Olympiad on Astronomy and Astrophysics
Student volunteer   Aug 2014

Greek Astronomy magazine "Ouranos"
Member of the writing team   Sep 2012 to Mar 2015

AEGEE-Athina
politically independent student organisation aiming at a democratic, diverse Europe
Volunteer   Sep 2012 to Sep 2013

LANGUAGES

Greek, Native Speaker
English, Proficient Level   *Certificate of Proficiency in English*
French, Intermediate Level   *Diplôme Approfondi de Langue Française (DALF C1-C2)*
Japanese, Beginner Level   *Level N5 of the Japanese-Language Proficiency Test*