# 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 modules it is combined with.
- Leading a subgroup that develops a real-world system which, after processing recordings of psychotherapy sessions, gives feedback to the therapist. The system is used 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

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| 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

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

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

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, including 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' ('Sky')**
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

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| **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* |