Mehmet Ali Tuğtekin Turan

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RESEARCH INTEREST Speech Signal Processing — Automatic Speech Recognition — On-Body Sensing Speech Enhancement — Wearable Computing — Machine Learning for Healthcare

EDUCATION

Doctor of Philosophy October 2013 - March, 2019

Koç University, Electrical Engineering, Istanbul, Turkey

- *Thesis:* Use of Transfer Learning for Automatic Dietary Monitoring through Throat Microphone Recordings
- *Advisor:* Dr. Engin Erzin
- *GPA:* 3.43 / 4.00
- Full scholarship from Ford Company, Turkey
- Grant support by the Scientific and Technological Research Council of Turkey (TÜBİTAK)

Master of Science September 2011 - August 2013

Koç University, Electrical Engineering, Istanbul, Turkey

- *Thesis:* Enhancement of Throat Microphone Recordings Using Gaussian Mixture Model Probabilistic Estimator
- *Read Online:* https://arxiv.org/abs/1804.05937
- *Advisor:* Dr. Engin Erzin
- *GPA:* 3.34 / 4.00
- Full scholarship from Koç University

Undergraduate Degree September 2007 - June 2011

Bilkent University, Electrical Engineering, Ankara, Turkey

TECHNICAL SKILLS *Programming Languages:* Python, R, C/C++
Tools: Kaldi, PyTorch, SRILM, Keras, HTK, Bash, MATLAB, LaTeX, Linux

SOCIETY MEMBERSHIP	IEEE & IEEE-SPS, *Student Member*	September 2011 - Present
	ISCA, *Student Member*	September 2012 - Present

RELEVANT COURSEWORK Random Processes — Big Data Processing — Digital Communications — Machine Learning — Introduction to Artificial Intelligence — Digital Signal Processing — Numerical Methods — Linear Systems Theory — Information Theory — Digital Image and Video Processing — Detection and Estimation Theory — Computer Vision and Pattern Recognition — Digital Speech and Audio Processing — Probabilistic Graphical Methods — Information Theory

TEACHING ASSISTANT DUTIES Digital Systems Design with FPGAs — Probability and Statistics — Digital Speech and Audio Processing — Embedded Systems with ATMEL Assembly — Quantitative Reasoning using MS Excel — Digital Signal Processing — Random Variables and Stochastic Processes — Introduction to Programming with MATLAB

LANGUAGES Turkish, *Native* (*Nationality*: Turkish)
English, *Fluent*
French, *Beginner*

LEISURE INTEREST Amateur Cooking — Playing Guitar — Volunteering for Animals — Motorcycle Touring — Mobile Programming

JOURNAL PAPERS

- **M. A. Tuğtekin Turan** and Engin Erzin. "Improving Phoneme Recognition of Throat Microphone Speech Recordings Using Transfer Learning." *submitted to* Elsevier Speech Communication, 2020.
- **M. A. Tuğtekin Turan** and Engin Erzin. "Domain Adaptation for Food Intake Classification with Teacher/Student Learning." *submitted to* IEEE Transactions on Multimedia, 2019.
- **M. A. Tuğtekin Turan** and Engin Erzin. "Source and Filter Estimation for Throat-Microphone Speech Enhancement." IEEE Transactions on Audio, Speech and Language Processing (TASLP), 2016.
  `https://doi.org/10.1109/TASLP.2015.2499040`
- Can Yağlı, **M. A. Tuğtekin Turan** and Engin Erzin. "Artificial Bandwidth Extension of Spectral Envelope Along a Viterbi Path." Elsevier Speech Communication, 2013. `https://doi.org/10.1016/j.specom.2012.07.003`

CONFERENCE PAPERS

- **M. A. Tuğtekin Turan**, Emmanuel Vincent and Denis Jouvet. "Improving Multi-Accent Speech Recognition Through Unsupervised Acoustic Model Adaptation." *will be submitted to* INTERSPEECH, 2020.
- **M. A. Tuğtekin Turan** and Engin Erzin. "Monitoring Infant's Emotional Cry in Domestic Environments Using the Capsule Network Architecture." INTERSPEECH, 2018. https://doi.org/10.21437/Interspeech.2018-2187
- **M. A. Tuğtekin Turan** and Engin Erzin. "Detection of Food Intake Events From Throat Microphone Recordings Using Convolutional Neural Networks." IEEE International Conference on Multimedia and Expo (ICME), 2018. https://doi.org/10.1109/ICMEW.2018.8551492
- **M. A. Tuğtekin Turan** and Engin Erzin. "Empirical Mode Decomposition of Throat Microphone Recordings for Intake Classification." International Workshop on Personal Health and Health Care, ACM Multimedia, 2017. https://doi.org/10.1145/3132635.3132640
- Johannes Abel et al. "A Subjective Listening Test of Six Different Artificial Bandwidth Extension Approaches in English, Chinese, German, and Korean." IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2016. https://doi.org/10.1109/ICASSP.2016.7472812
- **M. A. Tuğtekin Turan** and Engin Erzin. "Synchronous Overlap and Add of Spectra for Enhancement of Excitation in Artificial Bandwidth Extension of Speech." INTERSPEECH, 2015. https://www.isca-speech.org/archive/interspeech_2015/i15_2588.html
- **M. A. Tuğtekin Turan** and Engin Erzin. "Enhancement of Throat Microphone Recordings by Learning Phone-Dependent Mappings of Speech Spectra." IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2013. https://doi.org/10.1109/ICASSP.2013.6639029
- **M. A. Tuğtekin Turan** and Engin Erzin. "A New Statistical Excitation Mapping for Enhancement of Throat Microphone Recordings." INTERSPEECH, 2013. https://www.isca-speech.org/archive/interspeech_2013/i13_3244.html

IEEE REGIONAL CONFERENCE PAPERS

- **M. A. Tuğtekin Turan** and Engin Erzin. "Food Intake Detection Using Autoencoder Based Deep Neural Networks." IEEE Signal Processing and Communications Applications Conference (SIU), 2018. https://doi.org/10.1109/SIU.2018.8404522
- **M. A. Tuğtekin Turan** and Engin Erzin. "Classification of Ingestion Sounds Using Hilbert-Huang Transform." IEEE Signal Processing and Communications

Applications Conference (SIU), 2017.
https://doi.org/10.1109/SIU.2017.7960505

- **M. A. Tuğtekin Turan** and Engin Erzin. "Food Intake Classification Using Throat Microphone." IEEE Signal Processing and Communications Applications Conference (SIU), 2016. https://doi.org/10.1109/SIU.2016.7496129
- **M. A. Tuğtekin Turan** and Engin Erzin. "Artificial Bandwidth Extension of Speech Excitation." IEEE Signal Processing and Communications Applications Conference (SIU), 2015. https://doi.org/10.1109/SIU.2015.7130085
- **M. A. Tuğtekin Turan** and Engin Erzin. "A Phonetic Classification for Throat Microphone Enhancement." IEEE Signal Processing and Communications Applications Conference (SIU), 2014.
https://doi.org/10.1109/SIU.2014.6830559