

## **Asst. Prof. OSMAN BÜYÜK**

### **Personal Information**

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### **International Researcher IDs**

Publons / Web Of Science ResearcherID: F-7440-2018

### **Education Information**

Doctorate, Bogazici University, Institute Of Science, Elektrik-Elektronik Mühendisliği (Dr), Turkey 2005 - 2011

Postgraduate, Sabanci University, Institute Of Science, Elektronik Mühendisliği Ve Bilgisayar Bilimi (YI) (Tezli), Turkey 2003 - 2005

Undergraduate, Ihsan Dogramaci Bilkent University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, Turkey 1998 - 2003

### **Dissertations**

Doctorate, Telephone-based text-dependent speaker verification, Boğaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 2011

Postgraduate, Sub-word language modeling for Turkish speech recognition, Sabancı Üniversitesi, Fen Bilimleri Enstitüsü, Elektronik Mühendisliği Ve Bilgisayar Bilimi (YI) (Tezli), 2005

### **Research Areas**

Natural Language Processing, Human Computer Interaction, Text/Document Processing, Pattern Recognition and Image Processing, Neural Networks

### **Academic Titles / Tasks**

Assistant Professor, Kocaeli University, Mühendislik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 2018 - Continues

Assistant Professor, Kocaeli University, Mühendislik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 2013 - 2018

### **Published journal articles indexed by SCI, SSCI, and AHCI**

#### **I. Context-Dependent Sequence-to-Sequence Turkish Spelling Correction**

BÜYÜK O.

ACM TRANSACTIONS ON ASIAN AND LOW-RESOURCE LANGUAGE INFORMATION PROCESSING, vol.19, no.4, 2020 (SCI-Expanded)

- II. **Combination of Long-Term and Short-Term Features for Age Identification from Voice**  
BÜYÜK O., Arslan M. L.  
ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING, vol.18, no.2, pp.101-108, 2018 (SCI-Expanded)
- III. **Postprocessing Synthetic Speech With a Complex Cepstrum Vocoder for Spoofing Phase-Based Synthetic Speech Detectors**  
Demiroglu C., BÜYÜK O., Khodabakhsh A., Maia R.  
IEEE JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING, vol.11, no.4, pp.671-683, 2017 (SCI-Expanded)
- IV. **Sentence-HMM state-based i-vector/PLDA modelling for improved performance in text dependent single utterance speaker verification**  
BÜYÜK O.  
IET SIGNAL PROCESSING, vol.10, no.8, pp.918-923, 2016 (SCI-Expanded)
- V. **An investigation of the usability of sound recognition for source separation of packaging wastes in reverse vending machines**  
Korucu M. K., KAPLAN Ö., BÜYÜK O., GÜLLÜ M. K.  
Waste Management, vol.56, pp.46-52, 2016 (SCI-Expanded)
- VI. **Combining log-spectral mean subtraction at different frequency resolutions for handset-channel compensation in single utterance speaker verification**  
Buyuk O., Arslan L. M.  
IET SIGNAL PROCESSING, vol.6, no.9, pp.824-828, 2012 (SCI-Expanded)
- VII. **Model selection and score normalization for text-dependent single utterance speaker verification**  
Buyuk O., Arslan M. L.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.20, pp.1277-1295, 2012 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Effect of number and position of frames in speaker age estimation**  
Osman M. M., Büyük O., TANGEL A.  
Sigma Journal of Engineering and Natural Sciences, vol.41, no.2, pp.243-255, 2023 (ESCI)
- II. **Turkish Speech Recognition Based on Deep Neural Networks**  
Kimanuka U. A., BÜYÜK O.  
Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.22, pp.319-329, 2018 (Peer-Reviewed Journal)
- III. **A new database for Turkish speech recognition on mobile devices and initial speech recognition results using the database**  
BÜYÜK O.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.24, no.2, pp.180-184, 2018 (ESCI)
- IV. **The vulnerability of mobile text dependent single utterance speaker verification to replay attacks**  
BÜYÜK O.  
Dicle Üniversitesi Mühendislik Fakültesi Mühendislik Dergisi, vol.8, no.1, pp.77-88, 2017 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Context Influence on Sequence to Sequence Turkish Spelling Correction**  
BÜYÜK O., erden m., ARSLAN M. L.  
IEEE Seventeenth Signal Processing and Communication Applications Conference, Sivas, Turkey, 24 - 26 April 2019
- II. **Context influence on sequence to sequence Turkish spelling correction Diziden Diziye Türkçe Yazım Hatası Düzeltmede Bağlamin Etkisi**  
BÜYÜK O., Erden M., Arslan L. M.

27th Signal Processing and Communications Applications Conference, SIU 2019, Sivas, Turkey, 24 - 26 April 2019

- III. **An investigation of multi-language age classification from voice**  
BÜYÜK O., Arslan L. M.  
12th International Conference on Bio-Inspired Systems and Signal Processing, BIOSIGNALS 2019 - Part of 12th International Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2019, Prague, Czech Republic, 22 - 24 February 2019, pp.85-92
- IV. **Age identification from voice using feed-forward deep neural networks İleri-Beslemeli Derin Sinir Ağlarını Kullanarak Konusmadan Yas Tespiti**  
BÜYÜK O., Arslan L. M.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- V. **Age identification from voice using feed-forward deep neural networks**  
BÜYÜK O., ARSLAN M. L.  
IEEE Twenty Sixth Signal Processing and Communication Applications Conference, İzmir, Turkey, 2 - 05 May 2018
- VI. **Using of SVM Sound Recognition Technique in Source Separation of Packaging Wastes A New Approach for Reverse Vending Machines**  
KORUCU M. K., KAPLAN Ö., GÜLLÜ M. K., BÜYÜK O.  
Int. Conf. on Engineering and Natural Sciences (ICENS) 2016, Sarajevo, Bosnia And Herzegovina, 24 - 28 May 2016, pp.912-915
- VII. **Experiments on fast scoring for GMM based speaker verification**  
BÜYÜK O.  
IEEE Twenty Third Signal Processing and Communication Applications Conference, Malatya, Turkey, 16 - 19 May 2015
- VIII. **Combining spectral and prosodic features in HMM-based single utterance speaker verification**  
BÜYÜK O., Arslan L. M.  
8th International Conference on Bio-Inspired Systems and Signal Processing, BIOSIGNALS 2015, Lisbon, Portugal, 12 - 15 January 2015, pp.86-91
- IX. **Experiment on Fast Scoring for GMM Based Speaker Verification**  
BÜYÜK O.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.140-143
- X. **HMM-based text-dependent speaker recognition with handset-channel recognition**  
BÜYÜK O., ARSLAN M. L.  
IEEE Eighteenth Signal Processing and Communication Applications Conference, Diyarbakır, Turkey, 22 - 24 April 2010
- XI. **Turkish LVCSR system for call center conversations**  
haznedaroğlu a., ARSLAN M. L., BÜYÜK O., erden m.  
IEEE Eighteenth Signal Processing and Communication Applications Conference, Diyarbakır, Turkey, 22 - 24 April 2010
- XII. **Application of Voice Conversion for Cross-Language Rap Singing Transformation**  
Tuerk O., Bueyuek O., Haznedaroglu A., Arslan L. M.  
IEEE International Conference on Acoustics, Speech and Signal Processing, Taipei, Taiwan, 19 - 24 April 2009, pp.3597-3598
- XIII. **Keyword spotting using keyword adapted language model**  
haznedaroğlu a., BÜYÜK O., ARSLAN M. L.  
IEEE Fifteenth Signal Processing and Communication Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007
- XIV. **Turkish speech recognition software with adaptable language model**  
BÜYÜK O., haznedaroğlu a., ARSLAN M. L.  
IEEE Fifteenth Signal Processing and Communication Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007
- XV. **Incorporating language constraints in sub word based speech recognition**  
erdoğan h., BÜYÜK O., oflazer k.

IEEE Automatic Speech Recognition and Understanding Workshop, November 2005, Cancun, Mexico, 27 November 2004 - 01 December 2005

**XVI. Using hybrid lexicon units and incorporating language constraints in speech recognition**

BÜYÜK O., erdoğan h., oflazer k.

IEEE Thirteenth Signal Processing and Communication Applications Conference, Kayseri, Turkey, 16 - 18 May 2005

## **Supported Projects**

GÜLLÜ M. K., BÜYÜK O., TAŞYAPI ÇELEBİ A., KARACA A. C., Project Supported by Higher Education Institutions, 2019-İşaret İşleme Ortak Araştırma Laboratuvarı (SPRL), 2020 - 2021

## **Metrics**

Publication: 27

Citation (WoS): 47

Citation (Scopus): 70

H-Index (WoS): 4

H-Index (Scopus): 5