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# GÜLŞEN ERYİĞİT

Istanbul Technical University      Phone: +902122853503  
Computer Engineering Department      Fax: +902122853679  
Ayazağa 34469      gulsen.cebiroglu@itu.edu.tr  
Istanbul, Turkey      <http://www3.itu.edu.tr/~gulsenc/>

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## Current Research Interests

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Natural Language Processing (NLP)

- Machine learning and statistical methods for different NLP layers
- Semantic Analysis, question answering systems and chatbots
- NLP applications to Social Media Analytics

## Education

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- **PhD:** Istanbul Technical University, Computer Engineering Department (2007)
- **MSc:** Istanbul Technical University, Computer Engineering Department (2002)
- **BSc:** Marmara University, Computer Engineering Department (2000)  
graduated with the 2<sup>nd</sup> highest GPA, university entrance exam rank: 1253 over 1.265 million
- **High School:** Saint-Michel French High School (1995)  
highest score in university entrance exam in Math&Science

## Work Experience

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- ITU Computer Engineering Department Vice Chair 2019 - ...
- Istanbul Technical University, Computer Engineering Department, Associate Professor, October 2018 - ...
- Istanbul Technical University, Computer Engineering Department, Assistant Professor, November 2007-2018
- Istanbul Technical University, Computer Engineering Department, Lecturer, January 2007- November 2007
- VXU (Växjö University) School of Mathematics and Systems Engineering, Visiting Researcher on Language Technology Group, January 2006 - June 2006
- Istanbul Technical University, Computer Engineering Department, Teaching & Research Assistant, October 2002-January 2007
- TAF-ITU MODSIM (Turkish Armed Forces - Istanbul Technical University Modeling & Simulation) Lab., Application Developer, April 2001 - August 2003
- Garanti Technology & Istanbul Technical University, Application Developer & Teaching and Research Assistant, December 2000 - May 2002

## **Administrative Duties**

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ITU Computer Engineering Department Vice Chair (2019-...)

Faculty Board Member (2019-...)

ITU - IBU (International Balkan University) Dual-Diploma Computer Engineering Program Coordinator (2019-...)

Appointment and Promotion Commission of the Department - Member (2017-..)

Natural Language Processing Group Coordinator (2016-..)

Language Technologies and Social Robotic Lab. Coordinator (2016-..)

Public Relations Committee of the Department - Member (2018-2019)

Computer Engineering Graduate Program PhD Proficiency Board (2015-2018)

Computer Engineering Dep. Research Lab-2 Coordinator (2015-2016)

Faculty Board Member (2014-2017)

Computer Engineering Graduate Program Admission Board (2013-2016)

ITU-SUNY Binghamton Dual-Diploma Computer Engineering Program Coordinator (2011-2014)

Public Relations Committee of the Department - Member (2008-2012)

Social Organizations Commission of the Department - Member (2006 - 2008)

Natural Language Processing Reading Group - Coordinator (June 2004 - September 2004)

Representative of the Department's Research Assistants (December 2004 - January 2006)

Assessment and Evaluation Commission of the Department - Member (Spring 2004)

Program Improvement Commission of the Department - Member (Spring 2003)

## **Projects**

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### **funded by Research Funding Agencies**

- Infrastructure Building and Preliminary Scientific Studies on the Development of AI Technologies for Turkey's Priority Areas, ITU - Scientific Research Projects, Researcher, 2019 -
- EnetCollect - European Network for Combining Language Learning with Crowdsourcing Techniques, European Cost Action CA16105, Management Committee Member, 2017-
- Turkish Word Sense Disambiguation, ITU - Scientific Research Projects, Coordinator, 2017-
- Coreference Resolution of Turkish, ITU - Scientific Research Projects, Coordinator, 2017-2018
- A Signing Avatar System for Turkish to Turkish Sign Language Machine Translation, TUBITAK 1003, Researcher, 2014-2016

- Parsing Web 2.0 Sentences, TUBITAK 1001, Coordinator, 2013-2015  
part of ICT COST (European Cooperation in Science and Technology) Action IC1207 - PARSEME
- PARSEME - Parsing and Multiword Expressions, European Cost Action IC1207, Management Committee Member, 2013-2017
- Turkish Mobile Personal Assistant, Turkey's Ministry of Science Industry and Technology SANTEZ, Coordinator, 2013-2014
- CLARIN - Common language resources and technology infrastructure, EU 7th Framework Programme, Partner, Turkey's representative, 2010-2011
- Dependency Analysis of Turkish, ITU - Scientific Research Projects, Researcher, 2005-2007
- HOGAY Graphical Interface and Data Filtering Scheme Project, ITU - TAF, Researcher, 2001-2003

#### **funded under University-Industry Relationships**

- Semantic Analysis Components for Legal Document Review Platforms, 2018-2020
- Dialogue System for Automotive Support Channels, ITU Technology Transfer Office - Automotive Sector, 2017
- Domain Adaptation of Turkish Sentiment Analysis Tool for New Sectors, ITU Technology Transfer Office - Telecommunication Sector, 2017
- Entity Detection and Relation Extraction on Noisy Texts, ITU Technology Transfer Office - Banking Sector, 2016-2018
- Turkish Natural Language Processing Components for Semantic Web Technologies, ITU Technology Transfer Office - International Partnership, 2016-2017
- Morphological Generation for a movement-to-speech Turkish Sign Language Translation System, ITU Technology Transfer Office - IT Sector, 2016
- Improving Turkish Sentiment Analysis Results by the use of Advanced Feature Representations and Aspect-based Approaches, ITU Technology Transfer Office - Telecommunication Sector, 2015-2016
- Geocoding - Standardization of Addresses on a Geographic Information System, IT Sector, 2014-2015
- Social Customer Relationship Management, ITU Technology Transfer Office - Banking Sector, 2014-2015
- Social Media Monitoring, ITU Technology Transfer Office - Telecommunication Sector, 2014

#### **Honours & Awards**

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- TUBITAK Project Performance Award, 2018.
- ITU Plaque of Appreciation - Academic Achievement, December 2016.
- TUBITAK H2020 Project Proposal Above Threshold Award, November 2015.
- TUBITAK Travel Support for Participation to H2020 Consortiums, January 2015.
- ITU Plaque of Appreciation - Contribution to EU FP7 projects and Research Infrastructures, January 2012.
- Siemens Excellence Award, June 2007.
- Team member of the winning group in "CoNLL-XI Shared Task:Multi-lingual Dependency Parsing", June 2007.

- Team member of the winning group in “CoNLL-X Shared Task:Multi-lingual Dependency Parsing”, June 2006.
- TUBITAK (Scientific Technical and Research Council of Turkey) Research Grant during studies in Sweden, January-June 2006.
- TUBITAK (Scientific Technical and Research Council of Turkey) PhD scholarship, 2004-2006.
- Garanti Technology postgraduate scholarship, 2000-2002.
- Marmara University Computer Engineering Department, second highest GPA, 2006.
- Marmara University Rectorship Scholar, October 1998-June 2000.

## Languages

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English (Advanced)    French (Advanced)  
 Turkish (Native)      German (Introductory)

## Offered Courses

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ITU Computer Engineering Department, Graduate Program

- Natural Language Processing (Msc)(Spring 2007, Fall 2007, Fall 2009-2019)
- Statistical Methods in Natural Language Processing (PHd)(Spring 2011, Spring 2013-2019)

ITU Computer Engineering Department, Undergraduate Program

- Data Structures (Fall 2007-2008, Spring 2009, Fall 2009, Spring 2010, Fall 2010-2019)
- Object Oriented Programming (Spring 2007-2019)
- Computer Operating Systems (Spring 2007)

SUNY Binghamton-ITU Information Systems Engineering, Undergraduate Program

- Programming I (Fall 2008-2011)
- Java Programming (Spring 2009-2011)

ITU Information Technologies, Graduate Program

- Data Structures and Algorithms(Spring 2007, Spring 2010-2011)
- Structured Programming (Fall 2009-2011)

## Personal Information

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Nationality : Turkish

Birth Date: 1978

Status: Married, Mother of 1 child (maternity leave in 2008)

Maden Name: Cebiroğlu

## Publications

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3281 citations in Google Scholar by February 2020, h-index=21

## Thesis

*Dependency parsing of Turkish*, 2006. Ph.D. thesis, Istanbul Technical University, Istanbul.

*An affix stripping morphological analyzer for Turkish*, 2002. Master Thesis, Istanbul Technical University, Istanbul.

## International Journal Articles

**Gülşen Eryiğit**, Cihat Eryiğit, Serpil Karabüklü, Meltem Kelepir, Aslı Özkul, Tuğba Pamay, Dilara Torunoğlu-Selamet, and Hatice Köse. 2019. Building the first comprehensive machine-readable Turkish sign language resource: methods, challenges and solutions. *Language Resources and Evaluation*. (indexed in SCI-Expanded)

Umut Sulubacak and **Gülşen Eryiğit**. 2018. Implementing universal dependency, morphology and multiword expression annotation standards for Turkish language processing. *Turkish Journal of Electrical Engineering & Computer Sciences*, 26(3):1662-1672. (indexed in SCI-Expanded and TR-Index)

Gözde Gül İşgüder Şahin, Erdem Emekligil, Seçil Arslan, Onur Ağın and **Gülşen Eryiğit**. 2018. Relation extraction via one-shot dependency parsing on inter-sentential, higher-order and nested relations. *Turkish Journal of Electrical Engineering & Computer Sciences*, 26(2):830–843. (indexed in SCI-Expanded and TR-Index)

Mathieu Constant, **Gülşen Eryiğit**, Johanna Monti, Lonneke van der Plas, Carlos Ramisch, Michael Rosner and Amalia Todirascu. 2017. Multiword Expression Processing: A Survey. *Computational Linguistics*, 43(4): 837–892. (indexed in SCI and SSCI)

Gökhan Çelikkaya and **Gülşen Eryiğit**. 2017. Use of NLP Techniques for an Enhanced Mobile Personal Assistant: The Case of Turkish. *International Journal of Intelligent Systems and Applications in Engineering*, 5(3):94–104. (indexed in TR-Index)

**Gülşen Eryiğit** and Dilara Torunoğlu-Selamet. 2017. Social media text normalization for Turkish. *Natural Language Engineering Journal*, 23(6): 835–875. (indexed in SCI-Expanded and SSCI)

Gökhan Akın Şeker and **Gülşen Eryiğit**. 2017. Extending a CRF-based named entity recognition model for Turkish well formed text and user generated content. *Semantic Web Journal*, 8(5):625–642. (indexed in SCI-Expanded)

Cihat Eryiğit, Hatice Köse, Meltem Kelepir and **Gülşen Eryiğit**. 2016. Building machine-readable knowledge representations for Turkish sign language generation. *Knowledge-Based Systems*, 108:179–194. (indexed in SCI)

**Gülşen Eryiğit**, Joakim Nivre and Kemal Oflazer. 2008. Dependency parsing of Turkish. *Computational Linguistics*, doi: 10.1162/coli.2008.07-017-R1-06-83, 34(3):357–389. (indexed in SCI and SSCI)

Joakim Nivre, Johan Hall, Jens Nilsson, Atanas Chanev, **Gülşen Eryiğit**, Sandra Kübler, Stetoslav Marinov and Erwin Marsi. 2007. Maltparser: A language-independent system for data-driven dependency parsing. *Natural Language Engineering Journal*, 13(2):95–135. (indexed in Scopus at the time of publication, the journal is currently indexed in SCI-Expanded)

Cüneyd Tantuğ and **Gülşen Eryiğit**, 2006. Performance Analysis of Naïve Bayes Classification, Support Vector Machines and Neural Networks for Spam Categorization, *Applied Soft Computing Technologies: The Challenge of Complexity* (34), pages 495–504. Springer Advances in Soft Computing.

Şima Uyar, Sanem Sariel and **Gülşen Eryiğit**. 2004. A gene based adaptive mutation strategy for genetic algorithms. Genetic and Evolutionary Computation GECCO 2004, Springer LNCS 3103, pages 227–281. (indexed in SCI-Expanded)

### National Journal Articles

Fatih Samet Çetin and **Gülşen Eryiğit**. 2018. Türkçe Hedef Tabanlı Duygu Analizi için Alt Görevlerin İncelenmesi: Hedef Terim, Hedef Kategori ve Duygu Sınıfı Belirleme (Investigation of Aspect Based Turkish Sentiment Analysis Subtasks- Identification of Aspect Term, Aspect Category and Sentiment Polarity). *Bilişim Teknolojileri Dergisi (kabul tarihi: Aralık 2017), Gazi üniversitesi*,11(1):43–56. (indexed in TR-Index)

Gökhan Çelikkaya and **Gülşen Eryiğit**. 2014. A mobile assistant for Turkish. *Türkiye Bilişim Vakfı Bilgisayar Bilimleri ve Mühendisliği Dergisi, Turkish Informatics Foundation Computer Science and Engineering Journal (Special Issue on NLP)*, 8(8).

Ezgi Yıldırım, Fatih Samet Çetin, **Gülşen Eryiğit** and Tanel Temel. 2014. The impact of NLP on Turkish sentiment analysis. *Türkiye Bilişim Vakfı Bilgisayar Bilimleri ve Mühendisliği Dergisi, Turkish Informatics Foundation Computer Science and Engineering Journal (Special Issue on NLP)*, 8(8).

**Gülşen Eryiğit** and Tuğba PAMAY. 2014. ITU validation set. *Türkiye Bilişim Vakfı Bilgisayar Bilimleri ve Mühendisliği Dergisi, Turkish Informatics Foundation Computer Science and Engineering Journal (Special Issue on NLP)*, 8(8).

**Gülşen Eryiğit**. 2013. Biçimbilimsel Çözümleme. *Türkiye Bilişim Vakfı Bilgisayar Bilimleri ve Mühendisliği Dergisi*, 6:33–55.

**Gülşen Eryiğit**, Eşref Adalı and Kemal Oflazer. 2008. Türkçe'nin olasılık tabanlı bağılılık ayrıştırması. *İTÜDERGİSİ/d*, 7(4).

**Gülşen Eryiğit**, Cüneyd Tantuğ and Eşref Adalı. 2005. Yaramaz e-postaların süzülmesinde, karar destek makineleri, naive bayes ve bellek tabanlı öğrenme yöntemlerinin karşılaştırılması. *Türkiye Bilişim Vakfı Bilgisayar Bilimleri ve Mühendisliği Dergisi*, 1:27–36.

### Book Chapters

Mathieu Constant, **Gülşen Eryiğit**, Carlos Ramisch, Michael Rosner and Gerold Schneider. 2019. Statistical MWE-aware parsing. to appear in Yannick Parmentier and Jakub Waszczuk (Editors), Representation and Parsing of Multiword Expressions: Current Trends, in Language Science Press, Phraseology and Multiword Expressions (PMWE) Book Series.

Agata Savary, Marie Candito, Verginica Barbu Mititelu, Eduard Bejcek, Fabienne Cap, Slavomir Céplö, Silvio Ricardo Cordeiro, **Gülşen Eryiğit**, Voula Giouli, Maarten van Gompel, Yaakov HaCohen-Kerner, Jolanta Kovalevskaite, Simon Krek, Chaya Liebeskind, Johanna Monti, Carla Parra Escartín, Lonneke van der Plas, Behrang Qasemi Zadeh, Carlos Ramisch, Federico Sangati, Ivelina Stoyanova and Veronika Vincze. 2018. PARSEME multilingual corpus of verbal multiword expressions. in Stella Markantonatou, Carlos Ramisch, Agata Savary, Veronika Vincze (Editors), Multiword expressions at length and in depth: Extended papers from the MWE 2017 workshop, Language Science Press, Phraseology and Multiword Expressions (PMWE) Book Series, ISBN 978-3-96110-124-5.

**Gülşen Eryiğit**, Joakim Nivre and Kemal Oflazer. 2018. Dependency Parsing of Turkish. in Kemal Oflazer and Murat Saraçlar (Editors), *Studies in Turkish Language Processing*, Springer Verlag, Theory and Applications of Natural Language Processing Book Series, ISBN 978-3-319-90163-3.

**Gülşen Eryiğit**, Kemal Oflazer and Umut Sulubacak. 2018. Turkish Treebank. in Kemal Oflazer and Murat Saraçlar (Editors), *Studies in Turkish Language Processing*, Springer Verlag, Theory and Applications of Natural Language Processing Book Series, ISBN 978-3-319-90163-3.

### International Conference Papers

Mehmet Yasin Oral and Deniz Engin and Berke Oral and Erdem Emekligil and Seçil Arslan and **Gülşen Eryiğit**. 2019. Doküman görüntüleri üzerinde varlık ve ilişki İşaretleme için yarı-otomatik etiketleme aracı (A semi-automatic annotation interface for named entity and relation annotation on document images). In *International Conference on Computer Science and Engineering (UBMK)*.

Berke Oral and Erdem Emekligil and Seçil Arslan and **Gülşen Eryiğit**. 2019. Extracting complex relations from banking documents. In *ECONLP 2019 - 2nd Workshop on Economics and Natural Language Processing EMNLP-IJCNLP*.

Zahra Azin and **Gülşen Eryiğit**. 2019. Towards Turkish abstract meaning representation. In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics: Student Research Workshop*, pages 43–47, Florence, Italy, July. Association for Computational Linguistics.

Zeynep Yirmibeşoğlu and **Gülşen Eryiğit**. 2018. Detecting code-switching between Turkish-English language pair. In *Proceedings of the 2018 EMNLP Workshop W-NUT: The 4th Workshop on Noisy User-generated Text*, pages 110–115. Association for Computational Linguistics.

Tuğba Pamay and **Gülşen Eryiğit**. 2018. Turkish Coreference Resolution. In *International Conference on INnovations in Intelligent SysTems and Applications*, INISTA, Thessaloniki, July.

Gözde Gül Şahin, Erdem Emekligil, Seçil Arslan, Onur Ağın, and **Gülşen Eryiğit**. 2017. Conversion of number expressions within noisy text into numerical representation. In *25. Sinyal İşleme ve İletişim Uygulamaları Kurultayı*, SIU, Antalya, June.

Umut Sulubacak, Memduh Gokirmak, Francis Tyers, Çağrı Çöltekin, Joakim Nivre, and **Gülşen Eryiğit**. 2016a. Universal dependencies for Turkish. In *Proceedings of the 26th International Conference on Computational Linguistics*, COLING'16, Osaka, Japan, December. Association for Computational Linguistics.

Maria Pontiki, Dimitrios Galanis, Haris Papageorgiou, Ion Androutsopoulos, Suresh Manandhar, Mohammad AL-Smadi, Mahmoud Al-Ayyoub, Yanyan Zhao, Bing Qin, Orphée De Clercq, Véronique Hoste, Marianna Apidianaki, Xavier Tannier, Natalia Loukachevitch, Evgeny Kotelnikov, Nuria Bel, Salud María Jiménez-Zafra and **Gülşen Eryiğit**. 2016. SemEval-2016 task 5: Aspect based sentiment analysis. In *Proceedings of the 10th International Workshop on Semantic Evaluation*, SemEval'16, San Diego, California, June.

Fatih Samet Çetin, Ezgi Yıldırım, Can Ozbey and **Gülşen Eryiğit**. 2016. TGB at SemEval-2016 task 5: Multi-lingual constraint system for aspect based sentiment analysis. In *Proceedings of the 10th international workshop on semantic evaluation (SemEval 2016) collocated event with NAACL 2016*, San Diego, CA, June.

Dilara Torunoğlu-Selamet, Eren Bekar, Tugay Ilbay and **Gülşen Eryiğit**. 2016. Exploring spelling correction approaches for Turkish. In *TurCLing 2016, The First International Conference on Turcic Computational Linguistics at CICLING 2016*, pages 7–11, Konya, Turkey, April.

- Dilara Torunoğlu-Selamet, Tuğba Pamay and **Gülşen Eryiğit**. 2016. Simplification of Turkish sentences. In *TurCLing 2016, The First International Conference on Turkic Computational Linguistics at CICLING 2016*, pages 55–59, Konya, Turkey, April.
- Umut Sulubacak, Tuğba Pamay **Gülşen Eryiğit**. 2016. IMST: A revisited Turkish dependency treebank. In *TurCLing 2016, The First International Conference on Turkic Computational Linguistics at CICLING 2016*, pages 1–6, Konya, Turkey, April.
- Kübra Adalı, Tutkum Dinç, Memduh Gokirmak and **Gülşen Eryiğit**. 2016. Comprehensive annotation of multiword expressions for Turkish. In *TurCLing 2016, The First International Conference on Turkic Computational Linguistics at CICLING 2016*, pages 60–66, Konya, Turkey, April.
- Cihat Eryiğit and Serpil Karabüklü and Aslı Özkul and Dilara Torunoğlu-Selamet and Hatice Köse and **Gülşen Eryiğit** and Meltem Keleş and A.Sumru Özsoy. 2015. Türk İşaret dili sözlüklerinin Çevrimiçi ortamda birleştirilmesi Çalışmaları. In *Proceedings of the 29th Turkish National Linguistics Conference*, pages 155-161, Kocaeli, May.
- Alper Tokgöz and **Gülşen Eryiğit**. 2015. Transition-based dependency DAG parsing using dynamic oracles. In *ACL-IJCNLP SRW 2015*.
- Gülşen Eryiğit. 2015. Parsing Web2.0 language and sentiment analysis: The case of Turkish. In *ESSEM-AAMAS*, page 2.
- Hasan Kaya and **Gülşen Eryiğit**. 2015. Using finite state transducers for helping foreign language learning. In *The 2nd Workshop on Natural Language Processing Techniques for Educational Applications at ACL*, pages 94–98, Beijing, China, July.
- Gülşen Eryiğit**, Kübra Adalı, Dilara Torunoğlu-Selamet, Umut Sulubacak and Tuğba Pamay. 2015. Annotation and extraction of multiword expressions in Turkish treebanks. In *The 11th Workshop on Multiword Expressions at NACCL*.
- Tuğba Pamay, Umut Sulubacak, Dilara Torunoğlu-Selamet and **Gülşen Eryiğit**. 2015. The annotation process of the ITU Web treebank. In *The 9th Linguistic Annotation Workshop at NACCL*.
- Gülşen Eryiğit**. 2014. ITU Turkish NLP web service. In *Proceedings of the Demonstrations at the 14th Conference of the European Chapter of the Association for Computational Linguistics (EACL)*, Gothenburg, Sweden, April. Association for Computational Linguistics.
- Dilara Torunoğlu and **Gülşen Eryiğit**. 2014. A cascaded approach for social media text normalization of Turkish. In *5th Workshop on Language Analysis for Social Media (LASM) at EACL*, Gothenburg, Sweden, April. Association for Computational Linguistics.
- Kübra Adalı and **Gülşen Eryiğit**. 2014. Vowel and diacritic restoration for social media texts. In *5th Workshop on Language Analysis for Social Media (LASM) at EACL*, Gothenburg, Sweden, April. Association for Computational Linguistics.
- Muhammet Şahin, Umut Sulubacak, and **Gülşen Eryiğit**. 2013. Redefinition of Turkish morphology using flag diacritics. In *Proceedings of the Tenth Symposium on Natural Language Processing (SNLP-2013)*, Phuket, Thailand, October.
- Umut Sulubacak and **Gülşen Eryiğit**. 2013. Representation of morphosyntactic units and coordination structures in the Turkish dependency treebank. In *Proceedings of SPMRL 2013 (4th Workshop on Statistical Parsing of Morphologically Rich Languages)*, EMNLP 2013, Seattle, USA, October.



- Gökhan Çelikkaya, Dilara Torunoğlu, and **Gülşen Eryiğit**. 2013. Named entity recognition on real data: A preliminary investigation for Turkish. In *Proceedings of the 7th International Conference on Application of Information and Communication Technologies, AICT2013*, Baku, Azarbeijan, October. IEEE.
- Gülşen Eryiğit**, Fatih Samet Çetin, Meltem Yanık, Tanel Temel, and İyas Çiçekli. 2013. Turksent: A sentiment annotation tool for social media. In *Proceedings of the 7th Linguistic Annotation Workshop and Interoperability with Discourse*, pages 131–134, Sofia, Bulgaria, August. Association for Computational Linguistics.
- Gökhan Akın Şeker and **Gülşen Eryiğit**. 2012. Initial explorations on using CRFs for Turkish named entity recognition. In *Proceedings of the 24th International Conference on Computational Linguistics (COLING 2012)*, Mumbai, India, 8-15 December.
- Razieh Ehsani, Muzaffer Ege Alper, **Gülşen Eryiğit** and Eşref Adalı. 2012. Disambiguating main pos tags for Turkish. In *Proceedings of the 24th Conference on Computational Linguistics and Speech Processing (ROCLING 2012)*, Chung-Li, Taiwan, 21-22 September.
- Gülşen Eryiğit**. 2012. The Impact of Automatic Morphological Analysis & Disambiguation on Dependency Parsing of Turkish. In *Proceedings of the Eighth International Conference on Language Resources and Evaluation, (LREC 2012)*, Istanbul, 23-25 May.
- Mehmet Talha Cakmak , Süleyman Acar , **Gülşen Eryiğit**. 2012. Word alignment for English-Turkish language pair. In *Proceedings of the Eighth International Conference on Language Resources and Evaluation (LREC 2012)*, Istanbul, Turkey, 23-25 May.
- Gülşen Eryiğit** , Tugay İlbay , Ozan Arkan Can. 2011. Multiword Expressions in Statistical Dependency Parsing. In *Proceedings of the Workshop on Statistical Parsing of Morphologically-Rich Languages SPRML at IWPT 2011*, Dublin, 5-7 October.
- Gülşen Eryiğit**. 2007. ITU treebank annotation tool. In *Proceedings of the Linguistic Annotation Workshop at ACL 2007*, Prague, 24-30 June.
- Johan Hall, Jens Nilsson, Joakim Nivre, **Gülşen Eryiğit**, Beáta Megyesi, Mattias Nilsson, and Markus Saers. 2007. Single malt or blended? a study in multilingual parser optimization. In *Proceedings of the 11th Conference on Computational Natural Language Learning (CoNLL-XI)*, Prague, 24-30 June.
- Gülşen Eryiğit**, Eşref Adalı and Kemal Oflazer. 2006. Türkçe cümlelerin kural tabanlı bağıklık analizi. In *Proceedings of the 15th Turkish Symposium on Artificial Intelligence and Neural Networks*, pages 17–24, Muğla, 21-24 June.
- Gülşen Eryiğit**, Joakim Nivre and Kemal Oflazer. 2006. The incremental use of morphological information and lexicalization in data-driven dependency parsing. *Computer Processing of Oriental Languages, Beyond the Orient: The Research Challenges Ahead*, Springer LNAI (4285), pages 498–507.
- Joakim Nivre, Johan Hall, Jens Nilsson, **Gülşen Eryiğit**, and Stetoslav Marinov. 2006. Labeled pseudo-projective dependency parsing with support vector machines. In *Proceedings of the 10th Conference on Computational Natural Language Learning (CoNLL-X)*, pages 221–225, New York, NY, 8-9 June.
- Gülşen Eryiğit** and Kemal Oflazer. 2006. Statistical dependency parsing of Turkish. In *Proceedings of the 11th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2006)*, pages 89–96, Trento, 3-7 April.
- Şima Uyar and **Gülşen Eryiğit**. 2005. Improvements to penalty-based evolutionary algorithms for the multi-dimensional knapsack problem. In *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO 2005)*, pages 1257–1264, Washington, DC, 22-29 June.

- Aydın Karaman, Şima Uyar and **Gülşen Eryiğit**. 2005. The memory indexing evolutionary algorithm for dynamic environments. *Applications on Evolutionary Computing*, Springer LNCS 3449, pages 563–573. (indexed in SCI-Expanded)
- Gülşen Eryiğit** and Cüneyd Tantuğ. 2005. A comparison of support vector machines, memory-based and naïve bayes techniques on spam recognition. In *Proceedings of the International Conference on Artificial Intelligence and Applications*, pages 457–462, Innsbruck, 14-16 February.
- Gülşen Eryiğit** and Eşref Adalı. 2004. An affix stripping morphological analyzer for Turkish. In *Proceedings of the International Conference on Artificial Intelligence and Applications*, pages 299–304, Innsbruck, 16-18 February.
- Cüneyd Tantuğ and **Gülşen Eryiğit**. 2004. Probabilistic Turkish word root generation. In *Proceedings of the 3rd Asia Pacific International Symposium on Information Technology*, pages 443–447, Istanbul, 13-14 January.
- Şima Uyar, **Gülşen Eryiğit** and Sanem Sarel. 2004. An adaptive mutation scheme in genetic algorithms for fastening the convergence to the optimum. In *Proceedings of the 3rd Asia Pacific International Symposium on Information Technology*, pages 461–465, Istanbul, 13-14 January.
- Erdal Çayırıcı, Muhittin Gökmen, Sema Oktuğ, Tacettin Ayar, **Gülşen Eryiğit**, Tolga Çöplü, Evren Okçu, and Ilker Akgün. 2003. A graphical interface and a data filtering scheme for joint theater level simulation. In *Proceedings of the RTA/MSG Conference on C3I and Modelling and Simulation Interoperability*, pages 71–79, Antalya, 9-10 October.
- Gülşen Cebiroğlu**, Cüneyd Tantuğ, Eşref Adalı, and Yaşar Erenler. 2003. Sentetik Türkçe sözcük kökleri üretimi. In *Proceedings of the 12th Turkish Symposium on Artificial Intelligence and Neural Networks*, pages 133–136, Çanakkale, 2-4 July.
- Gülşen Cebiroğlu** and Eşref Adalı. 2002. Sözlüksüz köke ulaşma yöntemi. In *Proceedings of the 19th TBD Bilişim Kurultayı*, pages 155–160, Istanbul, 3-6 September.

### Technical Reports

- Muhittin Gökmen, Sema Oktuğ, **Gülşen Cebiroğlu**, Tacettin Ayar, Tolga Çöplü and Evren Okçu. 2001. Harp Oyunu Grafik Arayüz Yazılımı (HOGAY) Projesi Raporları. rapor no: TSKMODSIM 2001-01-İR-01, Ekim. rapor no: TSKMODSIM 2001-01-İR-02, Nisan. rapor no: TSKMODSIM 2001-01-İR-03, Ekim. rapor no: TSKMODSIM 2001-01-İR-04, Nisan. rapor no: TSKMODSIM 2001-01-SR-01, Ağustos.

### Others

- Joakim Nivre et al. (including **Gülşen Eryiğit**). 2017. Universal Dependencies 2.1, November. LINDAT/CLARIN digital library at the Institute of Formal and Applied Linguistics (ÚFAL), Faculty of Mathematics and Physics, Charles University - Corpus - Project code: 15-10472S; Project name: Morphologically and Syntactically Annotated Corpora of Many Languages.

- Gülşen Eryiğit**. December 2010. LR&T Situation in Turkey. CLARIN Newsletter, (11-12) p.18.

- Gülşen Eryiğit**. Mayıs 2010. Yapay Zeka ve Dil Teknolojileri. Bilişim Dergisi p.82–87

## Research Groups

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- ITU NLP Natural Language Processing Group, Coordinator 2016-...
- ITU Learning from Data Research Group, Member 2006-...
- ITU NLP Natural Language Processing Group, Founding Member 2002-2016
- ITU EVAL Evolutionary Algorithms Research Group 2002-October 2005

## Invited Speaker & Panelist

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- 26 December 2019, Istanbul National Education Directorate, AI Seminars, Istanbul.
- 8 September 2019, 3. Summer School for Data Science, Sabancı University, Istanbul.
- 21 September 2018, 3. International Conference on Computer Science and Engineering (UBMK'18), Sarajevo, Bosnia&Herzegovina.
- 05 July 2018, Summer School in AI at Bosphorus (Boğaz'da Yapay Öğrenme İsmail Arı Yaz Okulu), Boğaziçi University, Istanbul.
- 17 March 2017, Recent Innovations in Natural Language Processing, IEEE Computer Society Club, Istanbul Technical University, Istanbul.
- 31 January - 1 February 2017, Theoretical Foundations of Natural Language Processing, Corpus Linguistics Summer School, Hacettepe University Ankara.
- 27 January 2016, Research Infrastructures 2016-2017 Calls Info Day Success Story, ITU, Istanbul.
- 6 January 2016, Horizon 2020 Program Research Infrastructures Info Day and Experience Sharing Event Panelist, Tubitak, Ankara.
- 26 November 2015, "Turkish Natural Language Processing and ITU Turkish NLP Pipeline", Uppsala University, Sweden.
- 03 November 2015, "Natural Language Processing and Electronic Dictionaries", II. International Lexicography Symposium: Electronic Dictionaries, Istanbul, Turkey.
- 05 May 2015, "Parsing Web2.0 Language and Sentiment Analysis: The case of Turkish", Emotion and Sentiment in Social and Expressive Media: opportunities and challenges for emotion-aware multi agent systems ESSEM@AAMAS 2015, Istanbul, Turkey.
- 07 November 2014, "ITU Turkish Natural Language Processing Studies: 2000-2014", TurkLANG Conference, Istanbul, Turkey.
- 20 June 2013, "Parts-of-Speech Tagging and Dependency Parsing", Summer School on Natural Language and Speech Technologies (SSNLST'2013), TÜBİTAK BİLGEM BTE, İstanbul.
- 23 February 2010, "Natural Language Processing & Morphological Analysis", Koç University, Istanbul, Turkey.
- 24 April 2007, "Dependency Parsing of Turkish", Boğaziçi Üniversitesi, Istanbul, Turkey.
- 4 May 2006, "Dependency Parsing of Turkish", Uppsala Universitet, Uppsala, Sweden. (Minisymposium Computational aspects of building an annotated Swedish-Turkish parallel corpus)

## Professional Activities

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### Memberships

- Turkish Journal of Electrical Engineering & Computer Sciences, 2020-..., Editorial Board Member.
- ICT COST Action CA16105 “EnetCollect”, 2017-, Management Committee Member.
- Phraseology and Multiword Expressions (PMWE) book series, Language Science Press, 2016 -..., Editorial Board Member.
- ICT COST Action IC1207 “PARSEME”, 2013-2017, Management Committee Member.
- Marmara University, Computer Engineering Department, Advisory Board Member.
- ACL - Association for Computational Linguistics
- EU FP7 CLARIN Research Infrastructure, 2009-2011, National Representative.

### Grant Proposal Reviews for Research Institutes

- TUBITAK ARDEB , December 2019, Panel Evaluation External Expert.
- Ministry of Science, Industry and Technology, June 2019, R&D Center Evaluator.
- TUBITAK ARDEB, December 2017, Panel Evaluation Member.
- TUBITAK SOBAG, April 2017, Panel Evaluation External Expert.
- TUBITAK ARDEB , January 2016, Panel Evaluation External Expert.
- TUBITAK BİLTEG 1512 2. Aşama January 2016, Panel Evaluation Member.
- European Cooperation in Science and Technology “COST”, July 2014, Project Proposal Evaluator
- European Commission “Horizon 2020”, May-June 2014, Project Proposal Evaluator & Panel Evaluation Member
- TUBITAK ARDEB , June 2014, Panel Evaluation External Expert.
- TUBITAK ARDEB , May 2014-March 2016, Post-award reviewer.
- TUBITAK ARDEB , April 2014, Panel Evaluation External Expert.
- TUBITAK ARDEB (Research Grants Division), May 2013, Panel Evaluation Member.
- Ministry of Science, Industry and Technology, April 2012, Technology and Innovation Initiative Support Programs, Panel Evaluation Member.
- Swiss National Science Foundation, May 2011, Project Proposal Reviewer.
- TUBITAK (Turkish NSF) TEYDEB (Technology and Innovation Support Division), 2008–2017, Post-award reviewer.
- TUBITAK (Turkish NSF) TEYDEB (Technology and Innovation Support Division), 2008–2017, Project Proposal Reviewer.

### Article Reviews for Journals

- International Journal of Informatics Technologies, 2019, Reviewer.

- Information Processing & Management, 2019 Reviewer.
- Computer Speech & Language, 2017, 2019 Reviewer.
- Turkish Journal of Electrical Engineering & Computer Sciences, 2017-2020 Reviewer.
- Süleyman Demirel University Journal of Natural and Applied Sciences, 2017, Reviewer.
- International Journal of Intelligent Systems and Applications in Engineering, 2017, 2019 Reviewer.
- Journal of Polytechnic of Gazi University, 2016, Reviewer.
- Journal of the Faculty of Engineering and Architecture of Gazi University, 2016, Reviewer.
- Language Resources and Evaluation, 2016, Reviewer.
- Turkish Journal of Electrical Engineering & Computer Sciences, 2014, Reviewer.
- LREV(Language Resources and Evaluation Journal), 2013, Reviewer.
- IEEE Transactions on Audio, Speech and Language Processing, 2013, Reviewer.
- Computer Journal, 2012 Reviewer.
- IEEE Transactions on Audio, Speech and Language Processing, 2012, Reviewer.
- Turkish Journal of Electrical Engineering & Computer Sciences, 2012, Reviewer.
- Research on Language and Computation, Springer, 2010, Reviewer.
- Computer Journal, 2008, Reviewer.

### **Shared Task Organizations**

- PARSEME shared task on automatic identification of verbal MWEs, EACL 2017, Language Leader for Turkish.
- SemEval-2016 task 5: Aspect based sentiment analysis, Language Leader for Turkish.
- CoNLL-XI SharedTask: Multi-lingual Dependency Parsing, 2007, Data Provider for Turkish test dataset.

### **Conference Committee Memberships and Reviews**

- ACL 2020, Seattle US, Reviewer.
- MWE workshop at COLING 2020, Barcelona, Program Committee Member.
- MWE workshop at ACL 2019, Florence, Program Committee Member.
- UBMK (International Conference on Computer Science and Engineering), Sarajevo-Bosnia, 2018, Program Committee Member, Organizing Committee Member.
- Coling 2018 International Conference on Computational Linguistics, New Mexico, USA, Program Committee Member.
- EMNLP 2017 Conference on Empirical Methods in Natural Language Processing, Copenhagen, Program Committee Member.
- MWE 2017 The 13th Workshop on Multiword Expressions, Valencia, Program Committee Member.
- UBMK (International Conference on Computer Science and Engineering), Antalya, 2017, Program Committee Member, Organizing Committee Member.

- PARSEME 7 (7th General PARSEME Meeting), Dubrovnik, 2016, Program Committee Member.
- TURCLING 2016, 2016, Program Committee Member.
- CICLING 2016, 2016, Program Committee Member.
- SEMEVAL 2016, International Workshop on Semantic Evaluation, 2016, Reviewer.
- PARSEME 6 (6th General PARSEME Meeting), Struga, Macedonia, 2016, Program Committee Member.
- PARSEME 5 (5th General PARSEME Meeting), Iasi, Romain, 2015, Program Committee Member.
- SPMRL 2015 in conjunction with IWPT 2015 in Bilbao (Basque Country, Spain), 2015, Program Committee Member.
- DEPLING International Conference on Dependency Linguistics, Uppsala, Sweden, 2015, Program Committee Member.
- Coling Workshop SPMRL-SANCL First Joint Workshop on Statistical Parsing of Morphologically Rich Languages and Syntactic Analysis of Non-Canonical Languages, 2014, Program Committee Member.
- EACL Workshop on 10th Workshop on Multiword Expressions (MWE), 2014, Program Committee Member.
- Conference on Empirical Methods in Natural Language Processing (EMNLP), 2013, Reviewer.
- EMNLP-Workshop on Statistical Parsing of Morphologically Rich Languages (SPMRL), 2013, Program Committee Member.
- The 6th International Joint Conference on Natural Language Processing (IJCNLP), 2013, Reviewer.
- 28th International Symposium on Computer and Information Sciences (ISCIS), 2013, Reviewer.
- ACL 2013, Program Committee Member.
- SPMRL 2013, 4th Workshop on Statistical Parsing of Morphologically Rich Languages, Program Committee Member.
- ESSLLI 2013 EPI Workshop on extrinsic parse improvement, Program Committee Member.
- SP-Sem-MRL 2012 - ACL 2012 Joint Workshop on Statistical Parsing and Semantic Processing of Morphologically-Rich Languages, Program Committee Member.
- SANCL 2012 - NAACL-HLT Workshop on Syntactic Analysis of Non-Canonical Language, Program Committee Member.
- LREC 2012 - First Workshop on Language Resources and Technologies for Turkic Languages, Program Committee Member.
- The eight international conference on Language Resources and Evaluation (LREC), 2012, Organizing Committee Member.
- International Conference on Dependency Linguistics, September 2011 Barcelona, Program Committee Member.
- EVOStar 2010, Organizing Committee Member.
- ACL 2010, Program Committee Member.
- ACL 2008 Student Research Workshop, 2008, Program Committee Member.
- 11th Conference on Computational Natural Language Learning, 2007, Reviewer.
- 3rd Asia Pacific International Symposium on Information Technology, 2004, Organizing Committee Member.

- International Conference on Artificial Intelligence and Applications, 2004, Reviewer.

## Attended Conferences and Seminars

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- 3-7 February 2020, AB COST Action CA16105 CrowdFest, Portekiz. (*sponsored by Eu Cost*)
- 27-29 November 2019, AB COST Action CA16105 LARA Workshop, Slovakia. (*sponsored by Eu Cost*)
- 14-15 November 2019, AB COST Action CA16105 Working Group Meetings, Malta. (*sponsored by Eu Cost*)
- 13-15 March 2019, EU Cost Action CA16105 Meeting: MC and Working Group Meetings, Portugal. (*sponsored by Eu Cost*)
- 14-16 March 2018, EU Cost Action CA16105 Meeting: MC and Working Group Meetings, Romania. (*sponsored by Eu Cost*)
- 9-10 November 2017, EU ICT Proposers' Day 2017, Budapest, Hungary. (*sponsored by İTÜ*)
- 7-8 April 2016, EU Cost Action IC1207 Meeting: MC and Working Group Meetings, Macedonia. (*sponsored by Eu Cost*)
- 19-20 March 2015, EU Cost Action IC1207 Meeting: MC and Working Group Meetings, Malta. (*sponsored by Eu Cost*)
- 16 January 2015, ICT 16 Big Data Networking Day, Brussel. (*sponsored by TUBITAK*)
- 10-11 March, 2014, EU Cost Action IC1207 Meeting: MC and Working Group Meetings, Athens. (*sponsored by Eu Cost*)
- 28-30 October, 2013, Tenth Symposium on Natural Language Processing (SNLP-2013), Phuket. (*sponsored by ITU*)
- 15-18 September, 2013, Action IC1207 Meeting: MC and Working Group Meetings, Warsaw. (*sponsored by Eu Cost*)
- 4-9 August, 2013, ACL - Annual Meeting of the Association for Computational Linguistics, Sofia. (*sponsored by Turkcell*)
- 8 March, 2013, Action IC1207 Meeting: PARSEME Action's kick-off meeting, Brussels. (*sponsored partially by ITU*)
- 15-18 September, 2013, Action IC1207 Meeting: MC and Working Group Meetings, Warsaw. (*sponsored by Eu Cost*)
- 23-25 May, 2012, LREC - The Eight International Conference on Language Resources and Evaluation, Istanbul. (*sponsored by ITU*)
- 4-8 October 2011, IWPT - 12th International Conference on Parsing Technologies, Dublin. (*sponsored by ITU*)
- 18 October 2010, CLARIN Consortium Meeting, Vienna.
- 7-9 April 2010, EvoStar The main European events on Evolutionary Computation, Istanbul.
- 15 February, 2010, Graduate Adviser Workshop, ITU FBE, Istanbul, Turkey (*sponsored by ITU*)
- 7-8 December, 2009, EU FP7 Contract Negotiation and Project Management Workshop, Istanbul, Turkey (*sponsored by ITU*)

- 26-27 October, 2009, EU FP7 Proposal Writing Workshop, Istanbul, Turkey (*sponsored by ITU*)
- 29 September-2 October, 2009, NEERI09, Networking Event for European Research Infrastructures, Helsinki, Finland (*sponsored by TUBITAK National Contact Point Special Grant & ITU*)
- 23-30 June, 2007, ACL 2007, 45th Annual Meeting of the Association for Computational Linguistics, Prague, Czech (*sponsored by ITU*)
- 17-19 December, 2006, 21st International Conference on the Computer Processing of Oriental Languages, Sentosa, Singapore. (*sponsored by TUBITAK*)
- 4-9 June, 2006, HLT-NAACL 2006, Human Language Technology Conference - North American chapter of the Association for Computational Linguistics annual meeting, New York, USA. (*partially sponsored by VXU*)
- 4-5 May, 2006, Computational Aspects of Building an Annotated Swedish-Turkish Parallel Corpus, Uppsala, Sweden. (*sponsored by Uppsala Univ.*)
- 4-7 April, 2006, EACL'06, 11th Conference of the European Chapter of the Association for Computational Linguistics, Trento, Italy. (*sponsored by ITU*)
- 30 March-1 April 2005, EuroGP2005 & EvoCOP2005, incorporating EvoWorkshops2005, Lausanne, Switzerland. (*sponsored by TUBITAK*)
- 24-28 October 2004, 19th Annual ACM Conference on Object-Oriented Programming, Systems, Languages, and Applications, Vancouver, British Columbia, Canada.
- 26-28 May 2004, Microsoft Research Academic Days in Istanbul.
- 16-18 January 2004, IASTED International Conference on Artificial Intelligence and Applications, Innsbruck, Austria. (*sponsored by ITU*)
- 2-4 July 2003, 12th International Turkish Symposium on Artificial Intelligence and Neural Networks, Çanakkale, Turkey.
- 4 - 6 January 2002, .NET Academic Workshop, Microsoft Turkey.
- 3 - 6 September 2002, TBD 19. Information Congress, Istanbul.
- 10-11 October 2001, Joint Theater Level Simulation Users Conference by Rolands & Associates Corporation, Hyatt Regency, Monterey, California. (*sponsored by TAF*)
- 30 October -3 November 2000, Implementing Microsoft Windows 2000 Professional and Server, KoçSystem Education Center, Istanbul.

## Media Appearances

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- Istanbul National Education Directorate Press Release, <https://istanbulakademi.meb.gov.tr/haberler.php?pID=93> , Aralık 2019.
- Ministry of Education Press Release, [istanbul.meb.gov.tr/www/yapay-zek-seminerleri/icerik/2934](http://istanbul.meb.gov.tr/www/yapay-zek-seminerleri/icerik/2934) , Aralık 2019.
- ITU Foundation Magazine, issue 76, page 48, ITU's Technology Transfer Interface ITU TTO, [https://www.ituvakif.org.tr/dergi/sayi\\_76.pdf](https://www.ituvakif.org.tr/dergi/sayi_76.pdf), April 2017.
- ITU Foundation Magazine, issue 75, page 41, ITU Natural Language Processing Pipeline, [https://www.ituvakif.org.tr/dergi.asp#prettyPhoto\[1\]/0/](https://www.ituvakif.org.tr/dergi.asp#prettyPhoto[1]/0/), February 2017.



- ITU News, First International License by ITU Technology Transfer Office, <http://www.itu.edu.tr/akademi/itu-navo-tto/itunova-tto-dan-abd-ye-ilk-lisanslama-itu-dogal-dil-isleme-yazilim-zinciri>, December 2016.
- ITU Technology Transfer Office, Academic Interviews, ITU Turkish Natural Language Processing Pipeline, <https://www.youtube.com/watch?v=IyU5Z03uuog>, December 2016.
- Turkcell Academy ITU Computer Engineering, Natural Language Processing Studies at ITU, <https://vimeo.com/87570449>, [https://www.youtube.com/watch?v=EITYo\\_2OV2M](https://www.youtube.com/watch?v=EITYo_2OV2M), September 2013.
- H2O magazine, A Project Teaching Turkish to Electronic Devices, <http://www.itunovatto.com.tr/Bulten/2/PDF.pdf> page 30, 2014.
- VOX Vaxjo Universitet Magazin Visiting Researcher Interview, <https://web.itu.edu.tr/gulsenc/interview.pdf>, March 2006.