A. Cüneyd TANTUĞ
Curriculum Vitae

Address: Istanbul Technical University
Faculty of Computer and Informatics Engineering
34469, Maslak, Istanbul, Turkey
Tel. : +90 212 285 35 01
Web: www.tantug.com
E-Mail: tantug@itu.edu.tr, cuneyd@tantug.com

EDUCATION

Ph.D. Istanbul Technical University 2002 – 2007
Thesis: "*A Hybrid Model For Machine Translation Between Agglutinative and Related Languages*"

M.Sc. Istanbul Technical University 2000 - 2002
Thesis: "*An Efficient Clustering Method for Customer Segmentation*"

B.Sc. Istanbul Technical University 1996 - 2000
(Graduated as the 1st honor)

PROFESSIONAL EXPERIENCE

Istanbul Technical University, Turkey 2017 –
Assoc. Prof.

Istanbul Technical University, Turkey 2012 –
Center for Information Technology, Director

Istanbul Technical University, Turkey 2010 – 2017
Assist. Prof.

Istanbul Technical University, Turkey 2009 – 2010
Lecturer

Turkish Army Forces 2008 - 2009
Military Service (Naval Engineer Lieutenant)

Istanbul Technical University, Turkey 2007 – 2008
Lecturer

Copenhagen University Center for Language Technology, Denmark 2006 – 2007
Visiting Researcher

Istanbul Technical University, Turkey 2000 – 2006
Research and Teaching Assistant

RESEARCH AREAS

- Natural Language Processing
    - Computational Morphological Analysis, Machine Translation, Turkic Languages, Lexical Ambiguity Resolution, Transformers, Neural Machine Translation, Word Vector Representations, Lemmatization
- Data Mining
    - Clustering Methods, Data warehouse Building, Designing OLAP Systems
- Deep Learning

PUBLICATIONS

- Yıldız E., Tantuğ A.C., "Morpheus: A Neural Network for Jointly Learning Contextual Lemmatization and Morphological Tagging", *Proceedings of the 16th SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology*, **Florence**, **Italy**, 2019

- Çolakoğlu T., Sulubacak U., **Tantuğ A.C.**, "Normalizing Non-canonical Turkish Texts Using Machine Translation Approaches", *ACL Student Research Workshop*, **Florence**, **Italy**, 2019

- **Tantuğ, A. C.,** Adalı, E., "Machine translation between Turkic Languages", *Book Chapter in Turkish Natural Language Processing* (Kemal Oflazer, Murat Saraçlar eds.), Springer, 2018

- Güneş A., **Tantuğ A.C.**, "Turkish named entity recognition with deep learning", 26th Signal Processing and Communications Applications Conference (SIU), **İzmir, Turkey**, 2018

- Boyacı O., **Tantuğ A.C.,** "A random number generation method based on discrete time chaotic maps", *IEEE 60th International Midwest Symposium on Circuits and Systems (MWSCAS)*, **Boston, USA**, 2017.

- İlgen B., Adalı E., **Tantuğ A.C.**, "Exploring feature sets for Turkish word sense disambiguation", *Turkish Journal of Electrical Engineering & Computer Sciences*, 2015.

- Ülgen A., Velioğlu H., **Tantuğ A.C.**, "Digital Signage" - İTÜ/Bilgi Ekranı, *Akademik Bilişim Konferansı,* **Eskişehir, Turkey**, 2015.

- Yıldız E., **Tantuğ A.C.,** Diri B., "The Effect of Parallel Corpus Quality vs Size In English-To-Turkish SMT", *International Conference on Computer Science, Engineering and Applications (ICCSEA-2014),* **Chennai, India,** 2014.

- Yıldırım E., **Tantuğ A.C.,** "Evaluation of Domain Adaptation Approaches to Improve The Translation Quality", *6th International Conference on Computational Collective Intelligence Technologies and Applications (ICCCI 2014),* **Seoul, Korea,** 2014.

- Kavak Ö, **Tantuğ A.C.,** "A comparative study on State Programming: Hierarchical State Machine (HSM) Pattern and State Pattern", *6th International Conference on Software Technology and Engineering (ICSTE 2014)*, **Paris, France,** 2014**.**

- Altintas M. , **Tantuğ A.C.,** "Machine Learning Based Ticket Classification In Issue Tracking Systems", 2ndInternational Conference on Artificial Intelligence and Computer Science 2014 (AICS2014), **Bandung, Indonesia**, 2014.

- Türkmenoğlu, C., **Tantuğ A.C.,** "Sentiment Analysis in Turkish Media", *Workshop on Issues of Sentiment Discovery and Opinion Mining*, **Beijing, China**, 2014.

- Yıldız E., **Tantuğ A.C.,** Diri B., "İstatiksel Bilgisayarlı Çeviride Paralel Derlemin Büyüklüğünün ve Kalitesinin Etkileri", *Akıllı Sistemlerde Yenilikler ve Uygulamaları (ASYU-2014),* **İzmir, Türkiye,** 2014.

- Ilgen B., Adali E., **Tantuğ A.C., "**A Comparative Study to Determine the Effective Window Size of Turkish Word Sense Disambiguation Systems", *28th International Symposium on Computer and Information Sciences,* **Paris, France**, 2013.

- Yıldırım E., **Tantuğ A.C.,** "The feasibility analysis of re-ranking for N-best lists on English-Turkish machine translation", *IEEE International Symposium on Innovations in Intelligent Systems and Applications*, **Albena, Bulgaria,** 2013.

- **Tantuğ A.C.,** "Metin Sınıflandırma", *Türkiye Bilişim Vakfı Bilgisayar Bilimleri Dergisi,* vol. 6(6), 2012 (in Turkish).

- Ilgen B., Adali E., **Tantuğ A.C.,** Building up Lexical Sample Dataset for Turkish Word Sense Disambiguation, *IEEE International Symposium on Innovations in Intelligent Systems and Applications*, 2012.

- Yıldız E., **Tantuğ A.C.,** "Evaluation of Sentence Alignment Methods for English-Turkish Parallel Texts", *First Workshop on Language Resources and Technologies for Turkic Languages, LREC2012,* Istanbul, Turkey, 2012.

- Ilgen B., Adali E., **Tantuğ A.C.,** The impact of collocational features in Turkish Word Sense Disambiguation, *IEEE 16th International Conference on Intelligent Engineering Systems*, 2012.

- **Tantuğ A.C.,** "Document Categorization with Modified Statistical Language Models for Agglutinative Languages", *International Journal on Computational Intelligence Systems,* vol. 5(3), 2010.

- **Tantuğ A.C.,** "A Probabilistic Mobile Text Entry System for Agglutinative Languages", *IEEE Transactions on Consumer Electronics*, vol. 56(2), pp. 1018-1024, 2010.

- M. Orhun, **Tantuğ A. C.**, Adalı E., "Morphological Disambiguation Rules For Uyghur Language", *IEEE International Conference on Software Engineering and Service Sciences (ICSESS)*, Beijing, China, 2010.

- M. Orhun, **Tantuğ A. C.**, Adalı E., "Rule Based Analysis of the Uyghur Nouns", *International Journal of Asian Language Processing*, vol. 19(1), pp. 33-44, 2010.

- M. Orhun, **Tantuğ A. C.**, Adalı E., Sönmez C., "Computational Comparison of the Uyghur and Turkish Grammar", *2nd IEEE International Conference on Computer Science and Information Technology (ICCSIT2009)*, Beijing, China, 2009.

- M. Orhun, **Tantuğ A. C.**, Adalı E., "Rule Based Tagging of the Uyghur Verbs", *Fourth International Conference on Intelligent Computing and Information Systems*, Cairo, Egypt, 2009.

- M. Orhun, **Tantuğ A. C.**, Adalı E., "Rule Based Analysis of the Uygur Nouns", *International Conference on Asian Language Processing*, Chiang Mai, Thailand, 2008.

- **Tantuğ A.C.,** Adalı E., Oflazer K., "Türkmenceden Türkçeye Bilgisayarlı Metin Çevirisi", *İTÜ Dergisi,* vol:7(4), pp. 83-94, 2008.

- Murat M., Adalı E., **Tantuğ A.C.**, "Uygur Dili ve Makineli Çeviri", *Akademik Bilişim 2008,* Çanakkale, Turkey, 2008.

- **Tantuğ A.C.,** Oflazer K., Durgar El-Kahlout İ., "BLEU+ : A Fine Grained Tool for BLEU Computation", *In Proceedings of Language Resources and Evaluation Conference LREC,* Morocco, 2008.

- **Tantuğ A.C.,** Adalı E., Oflazer K., "A MT System from Turkmen to Turkish Employing Finite State and Statistical Methods", *In Proceedings of MT Summit XI,* Copenhagen, Denmark, 2007.

- **Tantuğ A.C.,** Adalı E., Oflazer K., "Machine Translation between Turkic Languages", *Proceedings of 45th Annual Meeting of Association for Computational Linguistics (ACL 2007) Companion Volume,* Prague, Czech Republic, 2007.

- **Tantuğ A.C.,** Adalı E., Oflazer K., "Lexical Ambiguity Resolution for Turkish in Direct Transfer Machine Translation Models", *Proceedings of 21st International Symposium on Computer and Information Sciences (ISCIS)*, *Lecture Notes in Computer Science*, vol. 4263, pp. 230-238, Springer, 2006.

- **Tantuğ A.C.**, Adalı E., Oflazer K., "Computer Analysis of The Turkmen Language Morphology", *Proceedings of the 5th International Conference on Natural Language Processing, (FinTAL)*, Turku, Finland, *Lecture Notes in Computer Science*, vol. 4139, pp. 186-193, Springer. 2006.

- **Tantuğ, A.C.,** Eryigit G., "Performance Analysis of Näive Bayes Classification, Support Vector Machines and Neural Networks for Spam Categorization", *Applied Soft Computing Technologies: The Challenge of Complexity,* Springer, 2006.

- **Tantuğ A.C.,** Adalı E., Oflazer K., "A Prototype Machine Translation System Between Turkmen and Turkish", *Proceedings of the Turkish Artificial Intelligence and Neural Networks (TAINN),* Muğla, Turkey, 2006.

- Eryiğit, G., **Tantuğ, A.C.** and Adali, E., "Yaramaz E-Postaların Süzülmesinde, Karar Destek Makineleri, Naive Bayes ve Bellek Tabanlı Öğrenme Yöntemlerinin Karşılaştırılması", *Türkiye Bilişim Vakfı Bilgisayar Bilimleri ve Mühendisliği Dergisi*, vol. 1, pp.27-36, 2006.

- Eryiğit G., **Tantuğ, A.C.,** "A Comparison Of Support Vector Machines, Memory-Based And Naïve Bayes Techniques On Spam Recognition", *The IASTED conference on Artificial Intelligence Applications (AIA),* Innsbruck, Austria, 2004.

- **Tantuğ, A.C.,** Eryiğit G., "Probabilistic Turkish Word Root Generation", *Proceedings of the 3rd Asia Pacific International Symposium on Information Technology (APIS)*, Istanbul, Turkey, 2004.

- **Tantuğ, A.C.,** Cebiroğlu, G., Adalı, E., Erenler,Y., "Synthetic Turkish Word Root Generation", *Proceedings of the Turkish Artificial Intelligence and Neural Networks (TAINN)*, Çanakkale, Turkey, 2003.

- **Tantuğ, A.C.,** Adalı, E., "Fast K-Means in Data Mining", *Bilisim Zirvesi 2002 Bildiriler Kitabı,* Istanbul, Turkey, 2002.

TEACHING

- İTÜ Computer Engineering Department Graduate Program
    - Machine Translation *(Spring 2010 - Spring 2012, Spring 2014 - Spring 2018)*
- İTÜ Information Technologies Graduate Program
    - Database Systems *(Fall 2007-2019)*
- İTÜ Computer Engineering Department Undergraduate Program
    - Software Engineering *(Fall 2007, Fall 2010, Fall 2011-Fall 2019)*
    - Software Quality and Testing *(Fall 2012)*
    - Object Oriented Programming *(Spring 2008, Fall 2009, Spring 2010)*
    - Microprocessor Applications Laboratory *(Spring 2008)*
    - Intro. To Inf. Sys. & Comp. Eng. *(Fall 2009, Fall 2010)*
    - Intro. To Sci. & Eng. Comp. *(Spring 2010)*
- İTÜ Information Systems Engineering Undergraduate Program
    - Operating Systems *(Fall 2010 - Fall 2019)*
    - Database Systems *(Spring 2011 - Spring 2019)*

- Programming II *(Spring 2010, Summer 2010)*
- İTÜ Computer Engineering Department Undergraduate Program - Courses Assisted
  - Database Systems *(Fall 2005)*
  - Microprocessors *(Spring 2001-2005, Summer 2004)*
  - Real Time Systems *(Fall 2004)*
  - Computer Architecture *(Fall 2001)*
  - Software Engineering *(Fall 2004)*
  - Microprocessor Applications Lab. *(Fall 2003)*
  - Microprocessors Lab. *(Fall 2002-2006)*
  - Operating Systems *(Spring 2004)*
  - File Organization *(Fall 2003)*
  - Intro. To Sci. & Eng. Comp. *(Spring 2005)*

RESEARCH PROJECTS

- **English To Turkish Machine Translation Project**   2010 –
  - Project Manager
  - Supported by The Republic of Turkey Ministry of Development under grant number TD14

- **Parsing WEB 2.0 Sentences**   2013 – 2014
  - Researcher
  - Supported by TÜBİTAK (National Science Foundation of Turkey) under grant number 112E276

- **User Experience Center**   2012 – 2013
  - Researcher
  - Supported by İSTKA (Istanbul Development Agency)

- **Historical Corpus of Old Turkish and Karahan Turkish**   2010 – 2013
  - Researcher
  - Supported by TÜBİTAK (National Science Foundation of Turkey) under grant number 110K048

- **Design of an MT System Between Turkmen and Turkish**   2006 – 2009
  - This project aims the design of a machine translation system between Turkmen Language to Turkish. This project includes the steps of building and investigating the proper methods and tools, generating linguistic materials (bi-lingual dictionaries, morphological analyzers, language models for statistical ambiguity resolution methods and etc.)
  - Supported by TÜBİTAK (National Science Foundation of Turkey) under grant number 106E048

- **Customer Segmentation Software Project** 2000 – 2002
  - Implemented for one of the biggest banks in Turkey for customer segmentation using a customer datawarehouse
  - Technologies: C++, DB2, Intelligent Miner

OTHER PROJECTS

- **Remote Monitoring and Control of GSM Base Stations** 2010 – 2013
  - This project is supported by The Turkish Ministry of Industry and Trade and Turkish Small & Medium Enterprises Development Organization.

- **Motorola Custom Performance Statistics Solution** 2008
  - A customized data structure for clustered network and reliable data loading with an application optimized for fast navigation
  - Technologies: Perl, Oracle 10i, Delphi

- **K@Plan –ERP Software** 2002 – 2004
  - An enterprise resource planning (including MRP-2) software for knitting
  - Technologies: Delphi, ADO, SQL Server 2000

- **Electronic Data Interchange (EDI) Over VPN** 2000 – 2003
  - Implemented EDI systems for connecting 155 headquarters of the Turkey's biggest tobacco company
  - Technologies: Delphi, Oracle 8i

- **Istanbul Technical University Dormitory Management Software** 2002 – 2003
  - A database application which is used in 7 different dormitories of ITU for the administration of dormitories (student information, payments, room planning, etc.)
  - Technologies: 4D RDBMS

- **Cukurova University Research Projects Supporting Department** 1996
  - A software for keep tracking of research projects in Cukurova University (expenses, reports, stuff, materials, etc.)
  - Technologies: 4D RDBMS

PROFESSIONAL ACTIVITIES

- Vice Dean, ITU Computer and Informatics Faculty, 2011-
- Founder of the start-up company TelcomIT, 2010-
- The Seventeenth IEEE Symposium on Computers and Communication (ISCC'12), 2012, Publication Chair
- TestIstanbul Conference, 2012, Programme Committee Member
- First Workshop on Language Resources and Technologies for Turkic Languages 2012, Reviewer
- LREC 2012, Local Committee Member

- ACL 2010 Student Research Workshop 2010, Reviewer
- TÜBİTAK Turkish Journal Of Electrical Engineering & Computer Sciences, 2010, Reviewer
- TÜBİTAK – TEYDEB 2009-2010, Project Reviewer
- International Conference On Electrical And Electronics Engineering, ELECO 2009, Reviewer
- International Symposium on Computer and Information Sciences ISCIS 2008, Reviewer
- ACL 2008 Student Research Workshop Reviewer, 2008
- II. Computational Linguistics Workshop, 2006, Istanbul, Organizing Committee Member
- The Third Asia Pacific International Symposium on Information Technology, 2004, Organization Committee Member
- The Third Asia Pacific International Symposium on Information Technology, 2004, Reviewer

MEMBERSHIPS

- ACL Member (The Association for Computational Linguistics)
- IEEE Member
- İTÜ Natural Language Processing Group, Founding Member
- İTÜ Computer Engineering Department Alumni Commission Member

HONORS

- Siemens Excellency Award   2007
- Garanti Technology Postgraduate Scholarship (for 2 years)   2000
- Bedri Karafakıoğlu Special Award, ITU   2000
- Northern Telecom – NETAS, Success Grant   1999

INVITED TALKS

- Title : Natural Language Processing and Turkish
  Bilgi University, Istanbul, Turkey, December 2009

- Title : Machine Translation
  Bilgi University, Istanbul, Turkey, November 2007

- Title : Computer Processing of Turkish
  Copenhagen University Center for Language Technology, Copenhagen, Denmark, 12.11.2006

- Title : Machine Translation and Turkic Languages
  II. Computational Linguistics Workshop, Istanbul, Turkey, 10.06.2006

LANGUAGES

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