

# BURAK KERİM AKKUŞ

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## EDUCATION

- 2014– **Ph.D. in Computer Engineering, Middle East Technical University**  
Question Answering, Natural Language Processing, Deep Learning  
My research centres on using Deep Neural Networks for building Question Answering Systems with Natural Languages. So far, I finished taking courses and passed the qualifying exam for my Ph.D. studies with a literature review for my dissertation on neural models for question answering systems. I plan to develop Recurrent Neural Network models with Attention Mechanisms to find relevant information in given texts and extract passages using Pointer Networks or generate answers using RNN based language models. I also plan to integrate a parsing model in a multi-task environment to improve question answering systems.
- Courses Deep Learning, Machine Learning, Artificial Intelligence, Knowledge Engineering, Computational Linguistics, Advanced Unix
- 2011–2014 **M.S. in Computer Engineering, Middle East Technical University**  
Natural Language Processing, Machine Learning  
Thesis: Supertagging with Combinatory Categorical Grammar for Dependency Parsing  
I built a Logistic Regression model for supertagging Turkish texts using Combinatory Categorical Grammar formalism for Dependency Parsing.
- Courses Statistical Methods in Natural Language Processing, Information Retrieval, Web Search Engine Design, Pattern Recognition
- 2006–2011 **B.S. in Computer Engineering, Middle East Technical University**  
Senior Design Project: We created a user friendly interface for mobile devices based on context awareness and adaptation using ambient light sensor and accelerometer data.

## COMPUTER SKILLS

- Working Python, C, C++, Java
- Basic Unix Shell, JavaScript, CSS, HTML, PHP, SQL, MATLAB

## EXPERIENCE

- Present **Research Assistant, Middle East Technical University, Ankara, Turkey**
- June 2012 **Research**  
Worked on Morphology, Sequence Labelling, Parsing, Text Categorization, Language Models, Sentence Generation, Question Answering
- Teaching**
- Natural Language Processing (with *Python*)
  - C Programming, Data Structures (with *C++*), Algorithms (with *C++*)
  - Software Development with Scripting Languages (with *Python* and basic *Django, HTML, CSS, JavaScript*)
  - Computer Engineering Design: Supervising graduation projects of senior students

- October 2016 **Funded Student**, *Hacettepe University & METU, Ankara, Turkey*
- October 2013 Understanding Images And Visualizing Text: Semantic Inference And Retrieval By Integrating Computer Vision And Natural Language Processing ([vision.cs.hacettepe.edu.tr/research.php](http://vision.cs.hacettepe.edu.tr/research.php))
- Worked on a project for transcribing the visual contents of images with descriptions
  - Constructed template based sentence generation models
  - Constructed word and phrase based language models for sentence generation using chunking
- Sponsors: The Scientific and Technological Research Council of Turkey (TUBİTAK) and European Union under European Cooperation in Science and Technology (COST) Programme
- June 2012 **Software Engineer**, *VLMedia-Rotasoft, Ankara, Turkey*
- October 2011 Web development and mobile application development for the social network, Waplog.
- Added social games to the website to increase interactivity between users (**Kohana** framework with **PHP**).
  - Built modules for data logging and statistics using **Redis** and **JavaScript**
  - Created the first version of the **Android** application for the website (**Java**).
- August 2010 **Intern**, *HAVELSAN, Ankara, Turkey*
- July 2010 Built a test automation software for **Java** based programs using Framework for Integrated Testing (FIT) in an R&D project.
- August 2009 **Intern**, *Optimal Software Electronics and Engineering Company, Ankara, Turkey*
- July 2009
- Developed a mobile application based on **Java Micro Edition** including a file manager, media recorder and player, location based services, messaging and phone applications
  - Designed and implemented the user interface of same project
  - Managed the configuration and integration of the same project

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## PUBLICATIONS

- 2017 **Initial Explorations of CCG Supertagging for Universal Dependency Parsing**  
*Burak Kerim Akkuş, H. Azizoğlu, and R. Çakıcı*  
CoNLL 2017 Shared Task: Multilingual Parsing from Raw Text to Universal Dependencies
- 2017 **Data-driven Image Captioning via Salient Region Discovery**  
*M. Kilickaya, Burak Kerim Akkuş, R. Çakıcı, A. Erdem, E. Erdem, and N. İkizler-Cinbiş*  
IET Computer Vision
- 2013 **Categorization of Turkish News Documents with Morphological Analysis**  
*Burak Kerim Akkuş and R. Çakıcı*  
Association for Computational Linguistics, Student Research Workshop

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## AWARDS AND SCHOLARSHIPS

- 2006 University Entrance Exam, 20<sup>th</sup> place in 1.5m examinees  
Student Selection and Placement Center (ÖSYM)
- 2005 13th National Physics Olympics, 3<sup>rd</sup> place in Mediterranean region  
Scientific and Technological Research Council of Turkey (TUBİTAK)
- 2002 7th National Elementary Mathematics Olympics, Bronze Medal  
Scientific and Technological Research Council of Turkey (TUBİTAK)
- 2008 Turkish Education Foundation (TEV) Outstanding Success Scholarship
- 2006 Middle East Technical University (METU) Outstanding Success Scholarship
- 2006 KYK Outstanding Success Scholarship

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## INTERESTS

Sailing, Photography, Astronomy, Calligraphy, Drawing