

Burak Kerim AKKUŞ

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EXPERIENCE

- Present **Senior Lead Engineer**, *ASELSAN, Ankara, Turkey*
- Apr 2023 **Senior Software Engineer**, *ASELSAN, Ankara, Turkey*
- Aug 2020 Developing Web Applications with Microservices
- Backend microservice development with **Java** and **Spring Boot**
 - Frontend development with **TypeScript** and **React**
 - Handled service communications and organizations with Orchestration and Choreography
 - Worked with command and event based approaches
 - Development with **Kafka**, **Redis**, **PostgreSQL**, **OpenAPI**, **Protocol Buffers**
 - Deployment with **Docker**, **Kubernetes**, **Rancher**, **Helm**
 - Worked on **OSGi** plugin development with **Java**
- Jul 2020 **Software Engineer (Data)**, *NTENT, Barcelona, Spain*
- Oct 2019 Worked on NLP modules to be used in Search Engines
- Named Entity Recognition (*Logistic Regression*, *Conditional Random Fields*)
 - Spelling Correction (*Deep Neural Networks*, **PyTorch**)
 - Query Expansion (**Spark**, **Scala**)
- Oct 2019 **Research & Teaching Assistant**, *Middle East Technical University, Ankara, Turkey*
- Jun 2012 **Research**
- Worked on Morphology, Sequence Labelling, Parsing, Text Categorization, Language Models, Sentence Generation, Question Answering
- Teaching**
- Natural Language Processing (**Python**)
 - C Programming, Data Structures (**C++**), Algorithms (**C++**), Software Development with Scripting Languages (**Python** and basic **Django**, **HTML**, **CSS**, **JavaScript**)
 - Computer Engineering Design: Supervising graduation projects of senior students
- Oct 2016 **Funded Student**, *Hacettepe University & METU, Ankara, Turkey*
- Oct 2013 Project: Understanding Images And Visualizing Text: Semantic Inference And Retrieval By Integrating Computer Vision And Natural Language Processing
- Worked on a project for transcribing the visual contents of images with descriptions
 - Constructed sentence generation models based on word and phrase based language models
- Sponsors: The Scientific and Technological Research Council of Turkey (TÜBİTAK) and European Union under European Cooperation in Science and Technology (COST) Programme
- Jun 2012 **Software Engineer**, *VLMedia-Rotasoft, Ankara, Turkey*
- Oct 2011 Web development and mobile application development for social networking
- 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**).
- Aug 2010 **Intern**, *HAVELSAN, Ankara, Turkey*
- Jul 2010 Built test automation software for **Java** based programs using Framework for Integrated Testing (FIT) in an R&D project.
- Aug 2009 **Intern**, *Optimal Software Electronics and Engineering Company, Ankara, Turkey*
- Jul 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 the same project
 - Managed the configuration and integration of the same project

EDUCATION

2014–X **Ph.D. in Computer Engineering, Middle East Technical University**

Question Answering, Natural Language Processing, Deep Learning

My research centred on using Deep Neural Networks for building Question Answering Systems with Natural Languages. I have finished all necessary courses and passed the qualifying exams for my Ph.D. studies with a literature review on neural models for question answering systems. I was working on multi-task learning for improving existing models and adding answer interpretability by using dependency parsing, noun phrase chunking, and named entity recognition models in parallel with question answering models before exiting the program.

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 to improve Turkish 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: Adaptable Graphical User Interfaces

We created a user friendly interface for mobile devices based on context awareness and adaptation using ambient light sensor and accelerometer data.

PUBLICATIONS

2017 **Initial Explorations of CCG Supertagging for Universal Dependency Parsing**

Burak Kerim Akkuş, H. Azizoglu, 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

AWARDS AND SCHOLARSHIPS

Awards

2006 University Entrance Exam, 20th in 1.5m examinees

Student Selection and Placement Center (ÖSYM)

2005 13th National Physics Olympics, 3rd in Mediterranean region

Scientific and Technological Research Council of Turkey (TÜBİTAK)

2002 7th National Elementary Mathematics Olympics, Bronze Medal

Scientific and Technological Research Council of Turkey (TÜBİTAK)

Scholarships

2008 Turkish Education Foundation (TEV) Outstanding Success Scholarship

2006 Middle East Technical University (METU) Outstanding Success Scholarship

2006 KYK Outstanding Success Scholarship

INTERESTS

Sailing, Archaeology, Astronomy, Photography