

ZEYNEP AKKALYONCU YILMAZ

Master's student working on deep learning for NLP and IR at the University of Waterloo

WORK EXPERIENCE

- present | 2018
- Research Assistant**
Data Systems Group, University of Waterloo 📍 Waterloo, ON, Canada
 - Developing deep learning models to improve the effectiveness of document retrieval methods
 - Previously worked on cross-lingual natural language generation for question answering
 - Research Intern**
KOVAN Research Lab 📍 Ankara, Turkey
 - Built a deep reinforcement learning agent that manipulates stacked objects using TensorFlow
 - Wrote Python scripts to generate random scenes to be used as training data in Blender
 - Conducted literature review regarding robotic action planning based on verbal commands
 - Software Engineering Intern**
ASELSAN Inc. 📍 Ankara, Turkey
 - Developed software prototype to track and plot movement of a mobile device in real time
 - Implemented a C++ library that extracts and displays motion information from built-in sensors
 - Benchmarked different signal processing techniques in terms of speed and robustness

EDUCATION

- present | 2018
- MMath in Computer Science**
University of Waterloo 📍 Waterloo, ON, Canada

GPA: 4.0 / 4.0
Courses: Software Engineering for Big Data, Theory of Deep Learning, Data Infrastructure, Data-Intensive Distributed Computing
 - BS in Computer Engineering**
Middle East Technical University 📍 Ankara, Turkey

GPA: 3.4 / 4.0
Relevant Courses: Introduction to Natural Language Processing, Cloud Computing, Linear Algebra, Data Management and File Structures

PUBLICATIONS

- 2019
- Zeynep Akkalyoncu Yilmaz, Wei Yang, Haotian Zhang, Jimmy Lin. Cross-Domain Modeling of Sentence-Level Evidence for Document Retrieval. (EMNLP-ICJNLP '19)*
Zeynep Akkalyoncu Yilmaz, Shengjin Wang, Wei Yang, Haotian Zhang, Jimmy Lin. Applying BERT to Document Retrieval with Birch. (EMNLP-ICJNLP '19)
Ryan Clancy, Jaejun Lee, Zeynep Akkalyoncu Yilmaz, and Jimmy Lin. Information Retrieval Meets Scalable Text Analytics: Solr Integration with Spark. (SIGIR '19)

SELECTED PROJECTS

- 2019
- Birch**
<https://github.com/castorini/birch>
 - Document retrieval system based on sentence modeling with BERT in Python
 - Achieved state-of-the-art performance on standard TREC newswire collections
 - Built an accompanying Docker image and Colab notebook for reproducibility
 - Sparksolrini**
<https://github.com/castorini/sparksolrini>
 - Apache Solr integration with Apache Spark for scalable text analytical applications
 - Implemented an efficient distributed framework in Scala to bridge Solr output with Spark RDDs
 - Demonstrated the performance of predicate pushdown via Solr through case studies, e.g: link analysis
 - Tardis**
<https://github.com/achyudh/tardis>
 - Framework for distributed ensembles of seq2seq models with Keras and PySpark
 - Implemented a pipeline to train and evaluate ensembles for machine translation using Elephas
 - Achieved a ~10% increase in BLEU scores with ensembles on WMT'14 datasets over single learners
 - Smart Shopping List**
<http://senior.ceng.metu.edu.tr/2017/thechaincoders>
 - Cross-platform mobile Xamarin shopping list application written in C#
 - Created a hybrid recommendation system in Python to make tailored product suggestions
 - Implemented a virtual shopping assistant using NLTK featuring speech detection and generation

CONTACT INFO

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SKILLS

Python	PyTorch
C++	TensorFlow
Scala	Keras
Java	NumPy
SQL	Git
Spark	Unix
Hadoop	Bash
Docker	

ACTIVITIES

Turkish National Chess Team Player
TED Symphony Orchestra Violinist
Women in Math Grad Representative
Technovation Mentor
Graduate Teaching Assistant
- Computational Linear Algebra
- Principles of Data Management & Use
- Management Information Systems
Undergraduate Teaching Assistant
- Data Structures
- Introduction to C Programming

LANGUAGES

English Turkish
French Russian