

Arif Usta

Data Systems Group at University of Waterloo
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OBJECTIVE

Research scientist with 9 years of research experience in computer science. My research interests lie in the field of data management and search engines; specifically relating to the application of deep learning and nlp techniques for user friendly information retrieval interfaces.

RESEARCH EXPERIENCE

Post-Doctoral Researcher Sep 2021 - Present

Data Systems Group, University of Waterloo, ON, Canada
Supervisor: Prof. Semih Salihoglu
Research Area: Data Lakes.

Research Assistant Sep 2015 - Aug 2021

Department of Computer Engineering, Bilkent University, Turkey
Supervisor: Prof. Ozgur Ulusoy
Research Area: Intelligent User Interfaces to Databases.

Research Intern Jun 2017 - Sep 2017

Data Management Group, Brown University, RI, US

- I was involved in a research conducted by Data Management Group in Brown University under supervision of Prof. Ugur Cetintemel. I contributed as an author to a research article published in SIGMOD'18.

EDUCATION

PhD, Computer Science Sep 2015 - Aug 2021

Bilkent University, Turkey
Supervisor: Prof. Ozgur Ulusoy
Thesis: Towards deeply intelligent interfaces in relational databases

MS, Computer Science Sep 2012 - Sep 2015

Bilkent University, Turkey
Thesis: Optimization of an Educational Search Engine Using Learning to Rank Algorithms
Supervisor: Prof. Ozgur Ulusoy
Research Area: Information Retrieval, Search Engines
Tuition Fee Scholarship (%100)
Graduation GPA: 3.73

BS, Computer Science Aug 2010 - Jan 2011

Uppsala University, Uppsala, Sweden
Erasmus Exchange Student

BS, Computer Science Sep 2007 - June 2012

Bilkent University, Turkey
Tuition Fee Scholarship (%100)
Graduation GPA: 3.77 / 4.00
Graduation Rank: 4th.

PROFESSIONAL EXPERIENCE

Teaching Assistant, Bilkent University, Turkey

Sep 2015 - Aug 2021

- CS 353: Database Systems
- CS 281: Computers and Data Organization
- CS 101: Algorithms and Programming I
- CS 113: Introduction to Programming for Engineers

Computer Engineer, IBEX Information Technologies, Turkey

Apr 2018 - Dec 2018

- Smart Construction e-Procurement Platform
- Centralized Nursing System for the Old at Home
- Mobile Evaluation and Therapy Tools for Kids with Cerebral Palsy

Co-founder, IBEX Information Technologies, Turkey

Dec 2014 - Oct 2015

- I co-founded a company being selected in a national contest as a worthwhile project to be fully funded by an official call named 1512 Start-up Program by TUBITAK (The Scientific and Technological Research Council of Turkey).

Intern, Microsoft Summer School

Summer 2011

- Took lectures of Microsoft technologies to develop web-based and mobile applications using .NET platform.
- Developed a windows phone application.

Intern, Turk Telekom Inc.

Summer 2010

Application Development Department, Turkey

- Designed an internal database application.

PUBLICATIONS

- **A. Usta**, O. Ulusoy. SQL Query Recommendation Using Graph Neural Networks (*on preparation 2022*)
- **A. Usta**, A. Karakayali, O. Ulusoy. Explainable Natural Language Interface to Databases Using Keyword Mappings and Schema Graph (*on submission 2022*)
- **A. Usta**, I. S. Altıngöve, R. Özcan, O. Ulusoy. Learning to Rank for Educational Search Engines for K12 Students (*on revision (minor)*), *IEEE Transactions on Learning Technologies*, TLT'21)
- **A. Usta**, A. Karakayali, O. Ulusoy. DBTagger: Multi-Task Learning for Keyword Mapping in NLDBs Using Bi-Directional Recurrent Neural Networks. *International Conference on Very Large Data Bases (PVLDB'21)*
- **A. Usta**, I. S. Altıngöve, R. Özcan, O. Ulusoy. Re-finding Behaviour in Educational Search (*International Conference on Theory and Practice of Digital Libraries (TPDL'19)*, Oslo, Norway)
- F. Basik, B. Hättasch, A. İlkhechi, **A. Usta**, S. Ramaswamy, P. Utama, N. Weir, C. Binnig, U. Cetintemel. DBPal: A Learned NL-Interface for Databases, (*Proceedings of the 2018 International Conference on Management of Data (SIGMOD'18)*, Gold Coast, QLD, Australia, July 2018)
- **A. Usta**, I. S. Altıngöve, I. B. Vidinli, R. Özcan, O. Ulusoy. How k-12 students search for learning? analysis of an educational search engine log, (*37th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'14)*, Houston, TX, USA, June 2014)

SUPERVISION

Research Project Team Leader, Bilkent University

Feb 2019 - Aug 2021

- Graduate Students
 1. MS Student *Akifhan Karakayali* works on applying information retrieval paradigms to rank candidate translations of natural language queries to SQL in NLDBs as his master thesis.
 2. MS Student *Mousa Farshkar* works on generating natural language text constrained on particular keywords present in a relational database.

- Undergraduate Students

1. UG Students *Akin Parkan, Busra Buyukgebiz, Ozan Aydin* work on graph embedding techniques in graphs extracted from relational databases for the problems of query recommendation and outlier analysis.

ACADEMIC SERVICE

External Reviewer

- ACM Web Conference 2022
- IEEE TKDE 2021

PROJECTS

- Isim Sehir Game for Android Smart Phones (downloaded 50.000 times) 2015
- 3D Scanner, supported by TUBITAK under 1512 (start-up) program. 2014
- Coffee Fortune Teller For Android Smart Phones (as senior thesis for BSc) 2012

HONORS AND AWARDS

- *Most Outstanding Teaching Assistant Award* Bilkent University, Ankara, Turkey 2021
- *Huawei Ph.D Fellowship* Bilkent University, Ankara, Turkey 2019-2021
- *Most Outstanding Teaching Assistant Award* Bilkent University, Ankara, Turkey 2018
- *Nokia Honor Award* IP Contest'12 Isik University, Istanbul, Turkey 2012
- *High Honor Student* Bilkent University Computer Engineering Department 2007-2012
- *Stipend Scholarship Recipient* Bilkent University Computer Engineering Department 2007-2012
- *Success Rating: 1051st.* OSYM University Entrance Exam (among 1.5 million students) 2007
- *Graduation Rank: 3rd.* Isparta Science High School 2007
- *Graduation Rank: 1st.* Primary School 2003