Karahan Sarıtaş

+49 1575 4831418 | karahansaritas@gmail.com | LinkedIn | Github | Website | Stackoverflow | Tübingen, Germany

EDUCATION

University of Tübingen Tübingen, Germany
*M.Sc. in Machine Learning - **GPA: 1.00/1.00*** *Oct 2023 – Jul 2025*

Boğaziçi University İstanbul, Turkey
*B.Sc. in Computer Engineering - **GPA: 3.88/4.00*** *Sep 2018 – Jul 2023*
Ranked 3 out of 91 − High Honors
Bachelor's Project: A Comprehensive Analysis of Static Word Embeddings for Turkish*

WORK EXPERIENCE

Trendyol İstanbul, Turkey
Associate Developer *Jul 2022 – Dec 2022*

- Developed and maintained batch data pipelines using **Apache Spark**, **Scala**, and **Alibaba Cloud EMR Service**. Worked on integrating different monitoring tools including Datadog, Grafana, New Relic, and Alibaba Cloud Monitoring with various products. Improved documentation by integrating Swagger and preparing data pipeline diagrams
- Technology Stack: Scala, Spark, Alibaba Cloud, Terraform, Kubernetes, Kafka, Zeppelin, Hadoop, Hive, Akka HTTP

RDC+ İstanbul, Turkey
Data Science Intern *Aug 2021 – Oct 2021*

- Developed and utilized **Selenium** and **BeautifulSoup** within **Python** to automate web scraping processes for collecting user data, including posts and related information. Employed **Neo4j** to construct graphical representations of the gathered data, facilitating comprehensive analysis and visualization of user interactions and content dynamics
- Learned about multiclass sentiment analysis, working on the product reviews using Turkish NLP (Zemberek) tools
- Technology Stack: Python, Neo4j, BeautifulSoup, Selenium

RESEARCH EXPERIENCE

Max Planck Institute for Biological Cybernetics Tübingen, Germany
Research Assistant at Department of Computational Neuroscience *Sep 2024 – Jan 2025*

- Extracted low-level semantic features and analyzed their correlations with human perception of visual complexity. Used **Sentence-Transformers** to calculate semantic similarities between region descriptions and captions, and worked with open-source **LLMs** to compute surprisal scores. Designed and implemented an experiment for **Prolific** using pairwise image comparisons, converting results to complexity ratings via the **Bradley-Terry** method. Used different segmentation and image-captioning models
- Technology Stack: Python, PyTorch, BERT, Sentence-Transformers, LLMs, Minicons, Prolific, jsPsych

The Scientific and Technological Research Council of Turkey İstanbul, Turkey
Tübitak Star Research Intern at Sabancı DHLab *Jun 2023 – Jul 2023*

- Contributed as a Tübitak (The Scientific and Technological Research Council of Turkey) undergraduate research intern to the project "Automatic Transcription of Ottoman Turkish Documents using DL Technologies" (publication). Solved the OCR and ground truth sequence alignment problem with Dynamic Time Warping and Levenshtein distance

TEACHING EXPERIENCE

University of Tübingen Tübingen, Germany
Teaching Assistant at Autonomous Learning Group *May 2024 – Sep 2024*

- Served as a practice group leader for the course "Introduction to Machine Learning" (Summer 2024). Supervised an exercise group, evaluated weekly student submissions, and assisted in grading the final exams

Boğaziçi University İstanbul, Turkey
Undergraduate Teaching Assistant *Mar 2021 - Jun 2023*

- Spring 2023 - Fundamentals of Software Engineering
  Spring 2022 - Introduction to Object Oriented Programming
  Fall 2021 - Introduction to Computing
  Spring 2021 - Introduction to Computing
- Engaged in a diverse array of responsibilities, including project preparation, formulating weekly lab questions, evaluating student submissions, maintaining communication with students, and producing educational videos

VIP Fen Bilimleri
İstanbul, Turkey

Teaching Assistant
Sep 2018 − Feb 2020

- Engaged in problem-solving sessions to help students in their preparation for the university entrance exam

PUBLICATIONS

K. Sarıtaş, C. A. Öz and T. Güngör. "A Comprehensive Analysis of Static Word Embeddings for Turkish". In: *Expert Systems With Applications, 2024* [Paper] [arXiv] [Code]

V. Bundele*, O. A. Çal*, B. Kargı*, **K. Sarıtaş***, K. Tezören*, Z. Ghaderi, and H. Lensch. "Evaluating Self-Supervised Learning in Medical Imaging: A Benchmark for Robustness, Generalizability, and Multi-Domain Impact". In: *TBA* [arXiv] [Code]

*: Joint first authorship

SCHOLARSHIPS & ACHIEVEMENTS

TEV-DAAD Scholarship: Selected for the joint scholarship awarded by the German Academic Exchange Service (DAAD) and the Turkish Education Foundation (TEV) to pursue my master's studies in Germany, among 45 recipients annually.

Wübben Foundation Student Grant: Selected for the scholarship for outstanding Master's students, awarded by the Wübben Foundation, among up to 55 recipients annually.

KYK Top 100 Government Scholarship: Awarded to undergraduate students who have been ranked in the top 100 on National University Admission Exam by Higher Education Credit and Hostels Institution (KYK)

Trendyol & TOG Education Scholarship: Awarded to top 50 undergraduate students based on university entrance ranking and academic achievement in the university

Tübitak 2247-C Intern Researcher Scholarship: Awarded to undergraduate students who take part in research projects carried out by the Scientific and Technological Research Council of Turkey

Bending Spoons Transcend 2022: Selected to be one of the 5 students from Turkey and 25 students from Europe to receive exclusive, one-on-one mentorship from a senior engineer at Bending Spoons

National University Admission Exam (YKS): Ranked 143rd in Mathematics and Science among ca. 2 million candidates

National University Admission Exam (Foreign Language): Ranked 99th in Foreign Language (English) among ca. 2 million candidates

Boğaziçi University Computer Engineering Third Ranking Award: Graduated as the third-highest ranked student in my class

Haydarpaşa Anatolia High School Salutatorian Award: Graduated as the second-highest ranked student in my class

LANGUAGES

Turkish: Native language

English: Advanced (IELTS 8.0 in 2022)

German: Elementary (did deutsch-institut zertifikat in 2023)

CERTIFICATES & PARTICIPATIONS

MOOCs & Professional Certificates
DeepLearning.AI
- DeepLearning.AI Tensorflow Developer Specialization
- TensorFlow Professional Developer Certificate