

EDUCATION

2022 – Present	PhD in Computer Science	LMU & Cambridge University, Germany & UK. advisors: Hinrich Schütze & Anna Korhonen
2018 – 2021	MSc in Computer Engineering	Bogazici University, Turkey (GPA:4.00/4.00).
2013 – 2018	BS in Computer Engineering	Bogazici University, Turkey (GPA:3.60/4.00).

EXPERIENCE

Jun. 2023 – Sep. 2023	Research Intern at Google	Mountain View - US
	<ul style="list-style-type: none"> Improving faithfulness of LLMs with synthetic counterfactual data. [paper] 	
Jan. 2022 – Present	Research Assistant at CIS, LMU	Munich - Germany
	<ul style="list-style-type: none"> Research on synthetic data generation grounded on raw human-written corpora, highly multi-lingual instruction tuning (200 languages), long-form generation, stability of few-shot prompts, computational social science, and word alignment. Supervising MSc/BSc students on text generation, crosslingual NLP, evaluation, and bias in LLMs. 	
Sep. 2021 – Dec. 2021	Applied Science Intern at Amazon	Madrid - Spain
	<ul style="list-style-type: none"> Worked on the <i>age range prediction</i> of children books for English and French. Improved SoTA by 50% by proposing a novel architecture and loss functions. Developed a method to improve metadata coverage accurately for <i>over a million books</i>. 	
Oct. 2018 – May 2019 & Jan. 2020 – Aug. 2021	Research Assistant at Bogazici University	Istanbul - Turkey
	<ul style="list-style-type: none"> Proposed cross-lingual <i>relation classification</i> models and dataset for 5 languages, EMNLP. Launched one of the first <i>semantic search engine</i> with Flask for COVID-19 literature and published in Workshop on NLP for COVID-19 at EMNLP. Co-authored in annotation of new Turkish Dependency Treebank and designed the dependency parser annotation toolkit with QT: BoAT Teaching Assistant: Data Structures and Algorithms (2017), Systems Programming (2020), Information Retrieval (2018, 2019, 2020), and Introduction to R Programming (2020, 2021). 	
May 2019 – Dec. 2019	Research Engineer at Peak	Istanbul - Turkey
	<ul style="list-style-type: none"> Collected ~10K hours of English learning content with forced alignment and topic modelling. Launched a zero-shot test pipeline for <i>Goodness of Pronunciation</i> models with AWS TTS service. 	
Feb. 2018 – Oct. 2018	Research Engineer at AISolt	Istanbul - Turkey
	<ul style="list-style-type: none"> Developed novel NLP algorithms for big-scale (>3M) Turkish law documents: text summarization, keyword extraction, filtering near-duplicate documents, ElasticSearch based search engine 	

PUBLICATIONS

- Ziegler, I.*; Köksal, A.*; Elliott, D.; Schütze, H.; *CRAFT Your Dataset: Task-Specific Synthetic Dataset Generation Through Corpus Retrieval and Augmentation*. [Submitted to TACL](#). 2024.
- Köksal, A.; Thaler, M.; Imani, A.; Üstün, A.; Korhonen, A.; Schütze, H.; *MURI: High-Quality Instruction Tuning Datasets for Low-Resource Languages via Reverse Instructions*. [Submitted to TACL](#). 2024.
- Köksal, A.; Aksitov, R.; Chang, C.; *Hallucination Augmented Recitations for Language Models*, [Submitted to COLING](#). 2024.
- Köksal, A.; Schick, T.; Korhonen, A.; Schütze, H.; *LongForm: Effective Instruction Tuning with Reverse Instructions*, [EMNLP-Findings](#). 2024.
- Zhao, R.; Köksal, A.; Liu, Y.; Weissweiler, L.; Korhonen, A.; Schütze, H.; *SynthEval: Hybrid Behavioral Testing of NLP Models with Synthetic CheckLists*. [EMNLP-Findings](#). 2024.
- Yüksel, A.; Köksal, A.; Senel, L.K.; Korhonen, A.; Schütze, H.; *TurkishMMLU: Measuring Massive Multitask Language Understanding in Turkish*. [EMNLP-Findings](#). 2024.

7. Modarressi, A.; **Köksal, A.**; Schütze, H.; *Consistent Document-Level Relation Extraction via Counterfactuals*, [EMNLP-Findings](#). 2024.
8. Zhao, R.; **Köksal, A.**; Modarressi, A.; Schütze, H.; *How Certain is Our Uncertainty? A Study of Consistency in Knowledge Probing*, Submitted to COLING, 2024.
9. Thaler, M.; **Köksal, A.**; Leidinger, A.; Korhonen, A.; Schütze, H.; *Bias Propagation in LLMs: Tracing Gender Bias from Pre-training Data to Alignment*, Submitted to COLING, 2024.
10. Modarressi, A.; **Köksal, A.**; Imani, A.; Fayyaz, M.; Schütze, H.; *MemLLM: Finetuning LLMs to Use An Explicit Read-Write Memory*, [arXiv](#). 2024.
11. Weissweiler, L.; **Köksal, A.**; Schütze, H.; *Hybrid Human-LLM Corpus Construction and LLM Evaluation for Rare Linguistic Phenomena*, [arXiv](#). 2024.
12. **Köksal, A.**; Severini, S.; Schütze, H.; *SilverAlign: MT-Based Silver Data Algorithm For Evaluating Word Alignment*, [LREC-Coling](#) 2024.
13. Maronikoulakis, A.; **Köksal, A.**; Schütze, H.; *Sociocultural knowledge is needed for selection of shots in hate speech detection tasks*, [Proceedings of the Fourth Workshop on Language Technology for Equality, Diversity, Inclusion, EACL](#). 2024.
14. Weissweiler, L.; Hofmann, V.; **Köksal, A.**; Schütze, H.; *Explaining pretrained language models' understanding of linguistic structures using construction grammar*, [Frontiers in Artificial Intelligence](#). 2023.
15. **Köksal, A.**; Yalcin, O.F.; Akbiyik, A.; Kilavuz, M.T.; Korhonen, A.; Schütze, H.; *Language-Agnostic Bias Detection in Language Models with Bias Probing*, [EMNLP-Findings](#). 2023.
16. **Köksal, A.**; Schick, T.; Schütze, H.; *MEAL: Stable and Active Learning for Few-Shot Prompting*, [EMNLP-Findings](#) 2023.
17. Weissweiler, L.; Hofmann, V.; **Köksal, A.**; Schütze, H.; *The better your Syntax, the better your Semantics? Probing Pretrained Language Models for the English Comparative Correlative*, [EMNLP](#). 2022.
18. Türk, U.; Atmaca, F.; Özateş, Ş.B.; Berk, G.; Bedir, S.T.; **Köksal, A.**; Öztürk, B.; Güngör, T.; Özgür, A.; *Resources for Turkish Dependency Parsing: Introducing the BOUN Treebank and the BoAT Annotation Tool*. [Language Resources and Evaluation](#). 2022
19. Huang, Y.; Giledereli, B.; **Köksal, A.**; Özgür, A.; Ozkirimli, E.; *Balancing Methods for Multi-label Text Classification with Long-Tailed Class Distribution*. [EMNLP](#). 2021.
20. **Köksal, A.**; Yüksel, Y.; Yıldırım, B.; Özgür, A.; *BOUN at SemEval-2021 Task 9: Text Augmentation Techniques for Fact Verification in Tabular Data*. [SemEval workshop at ACL](#). 2021.
21. **Köksal, A.**; Özgür, A.; *Twitter Dataset and Evaluation of Transformers for Turkish Sentiment Analysis*. [SIU, IEEE](#). 2021.
22. Huang, Y.; Giledereli, B.; **Köksal, A.**; Özgür, A.; Ozkirimli, E.; *PIDNA at BioASQ MESINESP: Hybrid Semantic Indexing for Biomedical Articles in Spanish*. [CLEF](#). 2021.
23. **Köksal, A.**; Özgür, A.; *The RELX Dataset and Matching the Multilingual Blanks for Cross-lingual Relation Classification*. [EMNLP - Findings](#). 2020
24. **Köksal, A.**; Dönmez, H.; Özçelik, R.; Ozkirimli, E.; Özgür, A.; *Vapur: A Search Engine to Find Related Protein – Compound Pairs in COVID-19 Literature*. [Workshop on NLP for COVID-19 at EMNLP](#). 2020.
25. Dönmez, H.; **Köksal, A.**; Ozkirimli, E.; Özgür, A.; *BOUN-REX at CLEF-2020 ChEMU Task 2: Evaluating Pretrained Transformers for Event Extraction*. [CLEF](#). 2020.
26. He, J.; Nguyen, D.Q.; [and 40 others including **Köksal, A.**]. *An Extended Overview of the CLEF 2020 ChEMU Lab: Information Extraction of Chemical Reactions from Patents*. [CLEF](#). 2020.
27. Türk, U.; Atmaca, F.; Özateş, Ş.B.; **Köksal, A.**; Öztürk, B.; Güngör, T.; Özgür, A.; *Turkish Treebanking: Unifying and Constructing Efforts*. [13th Linguistic Annotation Workshop, ACL](#). 2019.
28. **Köksal, A.**; Aycı G.; Suyunu B.; Mutlu M.M.; Cemgil A.T.; *Active Learning with Bayesian Nonnegative Matrix Factorization for Recommender Systems*. [SIU, IEEE](#). 2019.
29. **Köksal, A.**; *Skip-gram Model for Simulation of Taboo Game*. The 6th ESSENCE Workshop: The Taboo City Challenge Competition, International Joint Conference on Artificial Intelligence (IJCAI). 2017.

ACHIEVEMENTS, AWARDS

- Co-organizing the SIGTURK workshop at ACL. 2024.
- ELLIS PhD Student. 2022-2025.
- TUBITAK-BIDEB 2211-A Scholarship Program. Up to \$6,000 grant. 2018-2020.
- 1st place in The Taboo Challenge Workshop at IJCAI, Australia. €4,000 grant. 2017.
- The Turkish Presidency Scholarship for excellent ranking at the University Entrance Exam. \$24,000 grant. 2013-2018.
- 16th place in a National University Entrance Exam with around two million participants, 2013.
- Silver Medal at Junior Balkan Mathematical Olympiad, Olanesti/Romania, 2010.

PROJECTS

Turkish NLP Applications: *Word2Vec* (210★) *Sentiment Analysis* (120★) *Lemmatization* (90★)

Vapur: A COVID-19 search engine designed for finding related protein - chemical pairs.

Sentmon: A sentiment monitoring tool for Turkish tweets with BERT

BuKelimeYok: An artificial Turkish dictionary for nonexistent words via GPT.