Ibrahim Taha Aksu

Curriculum Vitae

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Research Interests

I am enthusiastic about domain adaptation of language models in a low-resource scheme, focusing on the more challenging case of limited data scenarios. Thus I am mostly interested in searching for effective transfer learning methods that would help language models perform well across various domains. Practically I aim to build models that are robust and able to adapt to a target domain via few-shot training or even without any training at all. Motivated by this aim, I study various concepts such as instruction tuning, parameter-efficient learning, data augmentation, prompt engineering *etc*.

Education

2019–Present **National University of Singapore - School of Computing**, *Ph.D. Candidate*, Computer Science, *CAP: 4.58/5*.
- **Field:** Information Extraction from Task-oriented Dialog Systems.
- **Advisors:** *Dr.* Nancy F. Chen and *Prof.* Min-Yen Kan

2014–2019 **Ihsan Dogramaci Bilkent University**, *Bachelors of Science*, Computer Science, *CGPA: 3.75/4*.

Publications

Graduate Work

Fall 2023 **Taha Aksu**, *Devamanyu Hazarika, Shikib Mehri, Seokhwan Kim, Dilek Hakkani-Tur, Yang Liu, Mahdi Namazifar. CESAR: Automatic Induction of Compositional Instructions for Multi-turn Dialogs (EMNLP 2023)*.

Spring 2023 **Taha Aksu**, *Min-Yen Kan, Nancy F. Chen. Prompter: Zero-shot Adaptive Prefixes for Dialogue State Tracking Domain Adaptation (ACL 2023)*.

Spring 2022 **Taha Aksu**, *Zhengyuan Liu , Min-Yen Kan, Nancy F. Chen. N-Shot Learning for Augmenting Task-Oriented Dialogue State Tracking. (ACL Findings 2022)*.

Fall 2021 **Taha Aksu**, *Zhengyuan Liu , Min-Yen Kan, Nancy F. Chen. Velocidapter: Task-oriented Dialogue Comprehension Modeling Pairing Synthetic Text Generation with Domain Adaptation. (SIGDIAL 2021)*.

Undergraduate Work

Fall 2019 **Taha Aksu**, Nancy F. Chen, Luis F. DHaro, Rafael Banchs. Reranking of responses using transfer learning for a retrieval-based chatbot (IWSDS 2019).

Professional Experience

Fall 2023– Spring 2023 **Applied Scientist Intern**, AMAZON, San Francisco Bay Area, U.S.
- I worked on a research project improving the compositional task capabilities of LLMs for both open-domain and task-oriented dialog modalities.
- Findings are under review for a high-tier NLP conference.

Fall 2018– Summer 2019 **Part-Time Software Engineer**, MILSOFT, Ankara/Turkey.
- Worked with a team of 9 for a distributed system that aimed to train a swarm of UAVs, through image recognition and reinforcement learning, to scan an area and find/pursue targets autonomously.
- Was responsible for the design and implementation of the central control system and the communication of UAVs.

Summer 2018 **Intern**, A*STAR- INSTITUTE FOR INFOCOMM RESEARCH, Singapore.
- Worked on a research project for an open-domain chatbot response re-ranker.
- The findings are published in the form of a workshop paper at IWSDS'19.
- Research fellowship was funded by the SIPGA award.

Summer 2017 **Intern**, KOCSISTEM, Ankara/Turkey.
- Participated in an internship program in the department of Technology Platforms-Data Layer as a software engineer.

Awards / Honors

Fall 2023 **Research Achievement Award**, *NUS*.
Receieved the NUS Computing Research Achievement Award.

2019-2023 **SINGA**, A*STAR.
Received The Singapore International Graduate Award.

Summer 2018 **SIPGA**, A*STAR.
Received SIPGA Award which is a short-term research attachment for international students with top scores, at A*STAR- Singapore.

Spring 2017 **Merit Scholarship**, BILKENT.
Received Bilkent University Merit Scholarship.

Spring 2014 – Spring 2018 **High Honor Certificate**, BILKENT.
Received High Honor Certificate from Bilkent University.

Teaching Experience

Fall/Spring 2020 **Teaching Asistant**, CS3219 - SOFTWARE ENGINEERING PRINCIPLES AND PATTERNS, NUS, Singapore.

Summer 2017 **Teaching Assistant**, SUMMER AI CAMP, Bilkent, Ankara/Turkey.

Spring 2017 **Teaching Assistant**, CS224- COMPUTER ARCHITECTURE LAB, Bilkent, Ankara/Turkey.

Fall 2016 **Teaching Assistant**, CS223- DIGITAL DESIGN LAB, Bilkent, Ankara/Turkey.

Skills

Languages Python, Java, C++/C, Matlab, JavaScript,C#

ML Packages Hugging Face, PyTorch, TensorFlow, NumPy, pandas, SciPy, scikit-learn, Matplotlib

Spoken Languages

Turkish	**Native**
English	**Proficient**
Russian	**Intermediate**

Service

2022-2023	**Reviewer**, AAAI,ACL, EMNLP.
2021-2022	**Reviewer**, ACL, IEEE-TAACL,.
2020-2021	**Reviewer**, IEEE-TAACL, ICSR, Neurocomputing.

Extracurricular Activities

Spring 2021	**WING NLP Seminar**, Organizing team. `https://wing-nus.github.io/nlp-seminar/`
Fall 2019	**ASRU 2019**, Student volunteer.
Fall 2018	**PLMW 2018**, PLMW Boston/USA.
Summer 2017	**Huawei**, Seeds for the Future program.
Summer 2016	**Work & Travel**, IOWA / USA.