BUSE ÇARIK

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RESEARCH AREAS

Human-AI Interaction, Natural Language Processing, Computational Social Science, Accessibility

EDUCATION

Virginia Tech, Blacksburg, VA   *Jan. 2023 - Present*
Ph.D. in Computer Science   *GPA: 3.95/4.0*
Advised by Dr. Eugenia H. Rho

Sabanci University, Istanbul   *Sept. 2020 - Dec. 2022*
M.Sc. in Computer Science   *GPA: 3.75/4.0*
Advised by Dr. Reyyan Yeniterzi

B.Sc. in Computer Science   *Sept. 2015 - Jun. 2020*
Minor in Psychology   *GPA: 3.71/4.0*

Uppsala University, Uppsala, Sweden   *Jan. - Jun. 2019*
Erasmus/Exchange Program

PUBLICATIONS

[2025a] **Linguistic Determinants of Effective Counterspeech: Strategies for Responding to Online Hate Speech**
Buse Çarık, Kaike Ping, Xiaohan Ding, and Eugenia H. Rho.
Proceedings of the National Academy of Sciences (PNAS), 2025 (Under Review)

[2025b] **Counterquill: Investigating the Potential of Human-AI Collaboration in Online Counterspeech Writing**
Xiaohan Ding, Kaike Ping, Uma Sushmitha Gunturi, **Buse Çarık**, Ms Sophia Stil, Lance T Wilhelm, Taufiq Daryanto, Dr James Hawdon, Sang Won Lee, and Eugenia H. Rho.
ACM Transactions on Computer-Human Interaction (TOCHI), 2025 (Under Review)

[2025c] **Exploring Large Language Models Through a Neurodivergent Lens: Use, Challenges, Community-Driven Workarounds, and Concerns**
Buse Çarık, Kaike Ping, Xiaohan Ding, Eugenia H. Rho.
ACM International Conference on Supporting Group Work (GROUP), 2025

[2024] **Leveraging Prompt-Based Large Language Models: Predicting Pandemic Health Decisions and Outcomes Through Social Media Language**
Xiaohan Ding, **Buse Çarık**, Uma Sushmitha Gunturi, Valerie Reyna, Eugenia H. Rho.
ACM Conference on Human Factors in Computing Systems (CHI), 2024

[2022a] **A Twitter Corpus for Named Entity Recognition in Turkish**
Buse Çarık & Reyyan Yeniterzi.
In Proceedings of the Thirteenth Language Resources and Evaluation Conference (LREC), 2022

[2022b] **A Turkish Hate Speech Dataset and Detection System**
Fatih Beyhan, **Buse Çarık**, Inanç Arın, Ayşecan Terzioğlu, Berrin Yanıkoğlu, Reyyan Yeniterzi.
In Proceedings of the Thirteenth Language Resources and Evaluation Conference (LREC), 2022

[2022c] **SU-NLP at SemEval-2022 Task 11: Complex Named Entity Recognition with Entity Linking**
Buse Çarık, Fatih Beyhan, Reyyan Yeniterzi.
In Proceedings of the 16th International Workshop on Semantic Evaluation (SemEval-2022), 2022

[2022d] **SU-NLP at CheckThat! 2021: Check-Worthiness of Turkish Tweets**
Buse Çarık & Reyyan Yeniterzi.
In CLEF (Working Notes), 2021

RESEARCH POSITIONS

Research Assistant (SAIL @ VT)
Jan. 2023 - Present

- PI: Dr. Eugenia Rho
- Developing a neuro-affirming AI system to help autistic adults manage negative self-talk through multimodal interactions.
- Conducting co-design sessions with autistic individuals and clinical practitioners to tailor AI features for therapeutic support.
- Investigating the impact of counterspeech on hateful posters' behaviors and perceptions to inform more effective intervention strategies.

Research Assistant (SUNLP @ Sabanci University)
Nov. 2021 - Nov. 2022

End-to-end Neural Entity Linking System with Entitypedia and EntityBERT

- PI: Dr. Reyyan Yeniterzi
- Developed methods for detecting named entities in news and social media texts.
- Implemented entity linking by matching social media posts with news articles based on extracted entities.

Tubitak Researcher
Mar. 2020 - Mar. 2021

A Deep Learning-Based Hate Speech Detection System:

A Comparative Analysis of Turkey and Tunisia

- PI: Prof. Berrin Yanıkoğlu, Dr. Reyyan Yeniterzi, Prof. Ayşecan Terzioğlu
- Created the first social media dataset and annotation schema for Turkish hate speech detection.
- Developed hate speech detection models using neural and transformer-based architectures.

AWARDS & HONORS

VT Autism Clinic & Center for Autism Research Student Fellowship
Oct. 2024

Awarded for the proposed research project on "Developing Human-AI Interaction Strategies to Support Autistic Adults in Coping with Negative Self-Talk".

Sabancı University Scholarship
Sept. 2015 - Dec. 2022

SELECTED TALKS

Supporting Mental Health in Neurodiverse Communities:
Enhancing LLM Accessibility through Multimodal Human-AI Interactions
Nov. 2023

Symposium on the Human-Centered Future of Work, Virginia Tech

TEACHING EXPERIENCE

Virginia Tech

Introduction to Software Design (Teaching Assistant & Lab Leader)	*Fall 2024*
Introduction to Problem Solving (Teaching Assistant)	*Fall 2023*
Advanced Machine Learning (Teaching Assistant)	*Spring 2023*

Sabanci University

Natural Language Processing (Head Teaching Assistant)	*Spring 2022*
Computational Approaches to Problem Solving (Teaching Assistant & Lab Leader)	*Fall 2021*
Machine Learning (Head Teaching Assistant & Lab Leader)	*Fall-Spring 2020/21*

SKILLS

Programming Languages:	Python *(Proficient)*, C++ *(Proficient)*, C#, R, bash, Java, LaTeX, HTML, CSS
Frameworks/Softwares:	HuggingFace, PyTorch, Pytorch Lightning, Tensorflow, Keras, OpenCV, Git
Technologies:	Linux, Windows, MacOS, Git, Elasticsearch
Language:	English (Fluent), Turkish (Fluent)