

# Afra Feyza Akyurek

+1 412 773 2342 ◊ akyurek@bu.edu ◊ feyzaakyurek.github.io

## EDUCATION

---

- Ph.D. in Computer Science** Sept 2019 - Present  
Department of Computer Science, Boston University, Boston.
- M.Sc. in Statistics and Data Science** Sept 2018 - May 2019  
Department of Statistics and Data Science, Carnegie Mellon University, Pittsburgh.
- B.Sc. in Industrial Engineering, Double Major in Computer Engineering** Sept 2013 - June 2018  
Full-Merit Scholarship, Ranked 3<sup>rd</sup> in Computer Engineering  
Koc University, Istanbul.

## INTERESTS

---

Natural Language Processing, Learning from Human Feedback, Collaborative Language Models, Model Editing

## PUBLICATIONS

---

- Afra Feyza Akyürek**, Ekin Akyürek, Ashwin Kalyan, Peter Clark, Derry Wijaya and Niket Tandon. RL4F: Generating Natural Language Feedback with Reinforcement Learning for Repairing Model Outputs *In submission*. 2023
- Lei Guo, Yiyang Zhang, Kate Mays, **Afra Feyza Akyürek**, Derry Wijaya and Margrit Betke. Agenda Setting, Cross-cutting Effects, and Political Expression on Social Media: The Gun Violence Case. *Communications Research*. 2023
- Afra Feyza Akyürek**, Sejin Paik, Muhammed Yusuf Kocyigit, Seda Akbiyik, Şerife Leman Runyun, and Derry Wijaya. On Measuring Biases in Prompt-Based Learning *Findings of NAACL 2022*. 2022
- Afra Feyza Akyürek**, Ekin Akyürek, Derry Wijaya and Jacob Andreas. Subspace Regularizers for Few-Shot Class Incremental Learning. *ICLR 2022*. 2021
- Garry Kuwanto\*, **Afra Feyza Akyürek\***, Siyang Li\*, Isidora Chara Tourni\* and Derry Wijaya. Low-Resource Machine Translation for Low-Resource Languages: Leveraging Comparable Data, Code-Switching and Compute Resources. *Preprint*. 2021
- Ekin Akyürek, **Afra Feyza Akyürek** and Jacob Andreas. Learning to Recombine and Resample Data for Compositional Generalization. In Proceedings of ICLR 2021. 2021
- Afra Feyza Akyürek**, Lei Guo, Randa Elanwar, Margrit Betke, Prakash Ishwar and Derry T. Wijaya. Multi-label and Multilingual News Framing Analysis. In Proceedings of ACL 2020. 2020

## RESEARCH AND INTERNSHIP EXPERIENCE

---

- Research Intern** September 2022 - December 2022  
*Allen Institute for Artificial Intelligence*
- Automatically generating natural language feedback.
- Machine Learning Research Intern** June 2021 - August 2021  
*Apple Inc.*
- Measuring and tackling gender bias in large scale pretrained language models.
- Machine Learning Intern** May 2019 - July 2019  
*Novartis Pharmaceutical Company, New Jersey, US*

- Focusing on statistical analysis of CAR-T therapy, a highly promising personalized immuno-therapy for cancer under the supervision of Kapildeb Sen and Joel Greenhouse. I created an explainable predictive model for treatment efficacy, revealed outstanding findings and communicated them to clinical experts.

### Teaching Assistant

September 2018 - May 2019

*Department of Statistics and Data Science, Carnegie Mellon*

- 36-315 Graphics and Visualization
- 36-350 Statistical Computing

### Undergraduate Research Assistant

February 2017 - December 2017

*Department of Industrial Engineering, Koc University*

- Statistical assessments of hand hygiene compliance and antibiotic use in Koc University Hospital.
- Deploying R and ElasticSearch for data management, and Shiny to build a web application for easy surveillance.

### Operations Research Intern

June 2017 - August 2017

*PlusOneMinusOne (now Arute Solutions), Istanbul*

- Using Java, I've implemented meta-heuristic methods including genetic algorithm and simulated annealing to address the optimization problem of cash management across ATM networks.

### Business Analytics Intern

June 2016-December 2016

*LC Waikiki, Istanbul*

- Completing two tasks: dispersion analysis of the goods in the logistics center using R and determining the optimum vehicle load factors for all routes throughout the logistics network with CPLEX Optimizer.

## HONORS AND AWARDS

---

<b>Hariri Graduate Student Fellow</b> , Hariri Institute for Computing, Boston	2021-2024
<b>Ranked 3<sup>rd</sup> in Computer Engineering</b> , completed the degree in one year, Koc University, Istanbul	2018
<b>Best Senior Design Computer Eng.</b> , Self-Driving Cars with Deep Reinforcement Learning	2018
<b>Vehbi Koc Scholar Award</b> , Outstanding Academic Achievement, Koc University	Sept 2013 - June 2018
<b>Arsel Scholar Award</b> , ranked 1 <sup>st</sup> in admittance to the program, Koc University	Sept 2013 - June 2018
<b>Turkish Premiership Scholar</b> , five year funding for undergraduate studies, Istanbul	2013 - 2018
<b>Society of Women Engineers Future Leader</b> , Chicago USA	2015
<b>31<sup>st</sup> Place in National University Entrance Exam</b> amid 2 million takers in Turkey	2013

## TALKS

---

<b>4<sup>th</sup> Workshop on Gender Bias in Natural Language Processing at NAACL 2022</b> Challenges in Measuring Social Biases in Open-Ended Language Generation (Oral Talk)	July 2022
<b>BU Artificial Intelligence Research Seminars</b> on Multilingual News Framing, Boston	Jan 2020
<b>UNESCO International Symposium</b> on Girls' Education in STEM, Bangkok	August 2017

## EXTRA-CURRICULAR AND LEADERSHIP ACTIVITIES

---

<b>Inaugural Chair</b> Social Activities Committee for PhD Students, Boston University	2023-Present
<b>Social Chair</b> Artificial Intelligence Research Group, Boston University	2021-2022
<b>Graduate Mentor</b> AI Research Workshop for Undergraduate Women in Computing, Boston University	2020

<b>Regional Finalist</b> at HULT Prize \$1 million Social Entrepreneurship Competition, London	March 2017
<b>Regional Finalist</b> at HULT Prize \$1 million Social Entrepreneurship Competition, Dubai	March 2016
<b>Attendee</b> Society of Women Engineers Annual Conference, Philadelphia, PA	November 2016
<b>Chair</b> , Society of Women Engineers, Koc University, Istanbul	June 2016 - June 2017
<b>Future Leader</b> Selected as the future leader by SWE in the international region (outside the US)	August 2015
<b>Attendee</b> Society of Women Engineers Annual Conference, Nashville, TN	November 2015
<b>Minor in Entrepreneurship</b> , Nanyang Technological University, Singapore.	July 2015
<b>Volunteer</b> , Young Guru Academy Leadership School, Istanbul	January 2015 - March 2016
<b>Volunteer</b> , Make A Wish Turkey, Istanbul	September 2013 - June 2018

## **SKILLS**

---

Fluent in Python, Pytorch, R with some experience in Java, SQL, NoSQL, Docker, Julia and C/C++.