Esin Durmus

Postdoctoral Scholar, Stanford University

CONTACT
INFORMATION

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RESEARCH
INTERESTS

Natural Language Generation, Evaluation of Generation Systems, Dialogue Modeling, Human-in-the-Loop Generation, Faithfulness of Generation Systems, Bias in Language, Responsible AI, Social Media Analysis, Assessing Fairness and Robustness of Large Language Models, Race and Technology, Computational Social Science.

Text Generation and Evaluation: I have done work on evaluating and improving the robustness and faithfulness of state-of-the-art generation systems and their evaluation.

Responsible AI: My research explores how different demographic groups are represented by large language models. I am also interested in understanding the failure cases of state-of-the-art toxicity detection models and proposing methods to improve them.

Race and Technology: We have collaborations with a social media platform in order to understand race conversations online and develop interventions to improve inclusiveness on this platform.

EDUCATION

Ph.D. in Computer Science, Cornell University   *2015 – 2021*

Advisor: Claire Cardie.

Coursework: Natural Language Processing and Social Interaction, Introduction to Natural Language Processing, Machine Learning for Intelligent Systems, Advanced Language Technologies, Structured Prediction for Natural Language processing, Advanced Topics in Machine Learning, Analysis of Algorithms.

Master of Science in Computer Science, Cornell University   *2015 – 2017*

B.S.E. degree in Computer Engineering, Koç University   *2010 – 2015*

Graduated as a Valedictorian. GPA: 4.14 / 4.00

B.S.E. degree in Industrial Engineering, Koç University   *2010 – 2015*

Graduated as a Valedictorian. GPA: 4.14 / 4.00

WORK
EXPERIENCE

Postdoctoral Scholar at Stanford University   *2021 - Present*

Affiliated with Stanford NLP group and Stanford AI lab.
Mentors: Dan Jurafsky and Tatsu Hashimoto.
Research focus: Developing reliable text generation systems, Evaluating Robustness of Text Generation models, Responsible AI, Race and Technology.

Research Intern at Google LLC.   *Summer 2020*

Worked at Google AI language team on improving text generation systems with human feedback.

Applied Scientist Intern at Amazon.com Services, Inc.   *Summer 2019*

Worked in AWS team on evaluating faithfulness of abstractive summarization systems.

Applied Scientist Intern at Amazon Corporate LLC.   *Summer 2017*

Worked at Alexa Natural Language Understanding team. Built n-gram, DNN and LSTM based systems for dialog state tracking. Applied personalization methods to adapt the model using user-specific information.

PUBLICATIONS

1. Spurious Correlations in Reference-Free Evaluation of Text Generation
   Esin Durmus, Faisal Ladhak, Tatsunori Hashimoto
   In Proceedings of ACL, 2022.

2. Language modeling via stochastic processes
   Rose Wang, **Esin Durmus**, Noah Goodman, Tatsunori Hashimoto
   In Proceedings of ICLR, 2022.

3. Faithful or Extractive? On Mitigating the Faithfulness-Abstractiveness Trade-off in Abstractive Summarization
   Faisal Ladhak, **Esin Durmus**[*1], He He, Claire Cardie, Kathleen McKeown
   In Proceedings of ACL, 2022.

4. On the opportunities and risks of foundation models
   In collaboration with many authors across Stanford University.
   Preprint, 2021

5. Proceedings of the Third Workshop on Computational Modeling of People's Opinions, Personality, and Emotion's in Social Media.
   Malvina Nissim, Viviana Patti, Barbara Plank, **Esin Durmus**.
   COLING 2020.

6. Exploring the Role of Argument Structure in Online Debate Persuasion.
   Jialu Li, **Esin Durmus** and Claire Cardie.
   In Proceedings of EMNLP, 2020.

7. WikiLingua: A New Benchmark Dataset for Cross-Lingual Abstractive Summarization.
   Faisal Ladhak[*], **Esin Durmus**[*], Claire Cardie and Kathleen McKeown.
   In Proceedings of EMNLP Findings, 2020.

8. A Question Answering Evaluation Framework for Faithfulness Assessment in Abstractive Summarization
   Esin Durmus, He He and Mona Diab.
   In Proceedings of ACL, 2020.

9. The Role of Pragmatic and Discourse Context in Determining Argument Impact
   Esin Durmus, Faisal Ladhak and Claire Cardie.
   In Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP), 2019.

10. Determining Relative Argument Specificity and Stance for Complex Argumentative Structures.
    Esin Durmus, Faisal Ladhak and Claire Cardie.
    In Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL), 2019.

11. A Corpus for Modeling User and Language Effects in Argumentation on Online Debating
    Esin Durmus and Claire Cardie.

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[1]Equal Contribution.

In Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL), 2019.

12. Persuasion of the Undecided: Language vs. the Listener.
Liane Longpre, **Esin Durmus** and Claire Cardie.
In Proceedings of Argmining 2019: The 6th Workshop on Argument Mining.

13. Modeling the Factors of User Success in Online Debate.
Esin Durmus and Claire Cardie.
In Proceedings of the 2019 World Wide Web Conference (WWW '19), May 1317, 2019, San Francisco, CA, USA.

14. Exploring the Role of Prior Beliefs for Argument Persuasion.
Esin Durmus and Claire Cardie.
In Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), 2018. Long Paper.

15. Understanding the Effect of Gender and Stance on Opinion Expression in Debates on "Abortion".
Esin Durmus and Claire Cardie.
In Proceedings of PEOPLES2018 workshop on computational modeling of peoples opinions, personality, and emotions in social media.

16. Vlad Niculae, Kai Sun, Xilun Chen*, Yao Cheng*, Xinya Du*, **Esin Durmus***, Arzoo Katiyar* and Claire Cardie. Cornell Belief and Sentiment System at TAC 2016. Text Analysis Conference (TAC). 2016.

PUBLISHED
DATASETS

- **WikiLingua Dataset.** The dataset includes 770k article and summary pairs in 18 languages from WikiHow. We extracted gold-standard article-summary alignments across languages by aligning the images that are used to describe each how-to step in an article.

- **Kialo Dataset.** We extracted argument trees for 741 controversial topics from www.kialo.com. The dataset includes diverse set of controversial topics. Each controversial topic is represented by a **thesis** and tagged to be related to pre-defined generic categories such as *Politics*, *Ethics*, *Society* and *Technology*. The arguments for each controversial topic are represented as trees. The root node of each such tree represents the **thesis** of the controversial topic. Every other node in the tree represents a **claim** that either **supports** or **opposes** its parent claim. The dataset includes **95,312** unique claims.

- **DDO Dataset.** We collected **77,655** debates and extensive information about 45,348 user participating in or voting for these debates. The dataset includes debate rounds, comments and votes for the debates as well as debater and voter profile information such as their religion, ideology, and opinions about controversial topics. The dataset is publicly available.

HONORS AND
AWARDS

Selected as one of the Rising Stars in EECS 2019 by UIUC.

Facebook Fellowship Finalist, 2019.

Valedictorian in Department of Computer Engineering, Koç University at 2015.

Full Scholarship to attend Koç University, 2010 to 2015.

Full scholarship to attend Stanford Summer International Honors Program, 2014.

Koç University Vehbi Koç Scholar Honor Roll, 2010 to 2015.

TEACHING EXPERIENCE	**Instructor for Introduction to Natural Language Processing, Cornell University.** *Fall 2020*
	Teaching Assistant for Introduction to Natural Language Processing, Cornell University. *Fall 2016, Fall 2017, Fall 2018*
	Teaching Assistant for Machine Learning for Data Science, Cornell University. *Spring 2016*
	Teaching Assistant for Introduction to Web Design, Cornell University. *Fall 2015*
ACTIVITIES	**Research Mentor**
	I have mentored several Undergraduate and Masters students to help them conduct NLP research and publish research papers.
	Previous students: Liane Longpre, Jialu Li and Xinran Zhao.
	Reviewer
	EMNLP 2019, UIST 2019, Widening NLP 2019, ACL 2020, SRW 2021, ACL 2021.
	Publicity and Publication Chair
	PEOPLES2020 workshop co-located with COLING 2020.
	Organizing Committee
	GEM workshop at ACL-IJCNLP 2021.
	Student Research Workshop at NAACL 2021.
	New Student Mentor, Cornell University.
	Mentoring students to provide academic and social assistance.
SKILLS	**Programming**
	Python, C/C++, Java, JavaScript, HTML, CSS.
	NLP and Machine Learning Libraries
	NLTK, numpy, pandas, scikit-learn, Tensorflow, Theano, Keras, PyTorch, Huggingface.
	Languages
	Turkish (Native), English (Full Professional Proficiency).