NLP4PI 2024

Third Workshop on NLP for Positive Impact

Proceedings of the Workshop

November 15, 2024

©2024 Association for Computational Linguistics

Order copies of this and other ACL proceedings from:

Association for Computational Linguistics (ACL) 317 Sidney Baker St. S Suite 400 - 134 Kerrville, TX 78028 USA Tel: +1-855-225-1962 acl@aclweb.org

ISBN 979-8-89176-175-9

Introduction

The widespread and indispensable use of language-oriented AI systems presents new opportunities to have a positive social impact. Much existing work on NLP for social good focuses on detecting or preventing harm, such as classifying hate speech, mitigating bias, or identifying signs of depression. However, NLP research also offers the potential for positive proactive applications that can improve user and public well-being or foster constructive conversations. Nevertheless, "positive impact" remains difficult to define, and well-intentioned NLP technology can raise concerns about ethics and privacy.

This volume contains the proceedings of the Third Workshop on NLP for Positive Impact held in conjunction with the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP 2024). The workshop received 48 submissions of technical papers of which 31 were accepted (25 archival and 6 non-archival), for an acceptance rate of 65%. Non-archival papers are included in the schedule and presented during the workshop, but are not included in the proceedings, whereas archival papers are included. We thank Program Committee members for providing high quality reviews in assembling these proceedings. These papers cover diverse aspects of NLP for positive impact, including developing NLP technology for applications like healthcare, criminal law, education, social media analyses, and consumer privacy as well discussing challenges and ethical implications of using NLP in these areas.

In addition to technical papers, this workshop also features invited keynote speakers and panelists to facilitate discussion and enhance knowledge of NLP for positive impact.

Keynote speakers: Anjalie Field, Johns Hopkins University Stephen Mayhew, Duolingo Cordelia Moore, NGOs Advisor on Digital Violence Louis-Philippe Morency, Carnegie Mellon University Veronica Perez-Rosa, University of Michigan Mrinmaya Sachan, ETH Zürich Yulia Tsvetkov, University of Washington

Panelists: Anjalie Field, Johns Hopkins University Stephen Mayhew, Duolingo Cordelia Moore, NGOs Advisor on Digital Violence Jieyu Zhao, University of Southern California

We are grateful to all the people who have contributed to this workshop, including speakers, authors, reviewers, and attendees.

We hope that our workshop can encourage future work on pro-social NLP and we look forward to welcoming you all to our workshop!

- Daryna, Oana, Zhijing, Rada, Giorgio, Joel, Steven, and Jieyu

Organizing Committee

Program Chairs

Daryna Dementieva, Technical University of Munich Oana Ignat, Santa Clara University Zhijing Jin, Max Planck Institute and ETH Zürich Rada Mihalcea, University of Michigan Giorgio Piatti, ETH Zürich Joel Tetreault, Dataminr Steven Wilson, University of Michigan-Flint Jieyu Zhao, University of Southern California

Program Committee

Reviewers

Udita Patel, Amazon Tornike Tsereteli, Universität Mannheim John E. Ortega, Northeastern University Eda Okur, Intel Labs Hao Chen, Zhejiang University Shihao Ran, University of Houston Resmi Ramachandranpillai, Institute for Experiential AI Nikolay Babakov, Univesity of Santiago de Compostela Theodora Chaspari, University of Colorado at Boulder Shubham Shukla, Nordstrom Pratinav Seth, Arya.ai Pablo Duboue, Textualization Software Ltd. Chan Young Park, University of Washington Ehsanul Haque Nirjhar, Texas A&M University - College Station Hannah Rashkin, Google Sarah Ebling, University of Zurich Ekatrina Artemova, Toloka AI Raluca-Andreea Gînga, University of Bucharest Daniel Spokoyny, Carnegie Mellon University Christos Christodoulopoulos, Amazon Jiawen Wang, Ludwig-Maximilians-Universität München Tobias Eder, Technische Universität München Antonios Anastasopoulos, Athena Research Center Jakub Macina, ETHZ - ETH Zurich Divya Chaudhary, Northeastern University Ke Zhang, Dataminr, inc Akhila Yerukola, Carnegie Mellon University Di Lu, Dataminr Qinlan Shen, Oracle Chia-Chien Hung, NEC Laboratories Europe Kevin Zhu, Algoverse AI Research Xiaofan Zheng, Xi'an Jiaotong University Mascha Kurpicz-Briki, BFH - Bern University of Applied Sciences Minnan Luo, Xi'an Jiaotong University Yann Billeter, ZHAW - Zürcher Hochschule für Angewandte Wissenschaften Sangameshwar Patil, Indian Institute of Technology, Madras Zhongyuan Han, Foshan University Robert L. Logan IV, University of California, Irvine Emily Öhman, Waseda University Abeer Aldayel, King Saud University James R. Foulds, University of Maryland, Baltimore County Jing Ma, University of Zurich Labiba Jahan, Southern Methodist University Iacopo Ghinassi, Queen Mary University of London Andrea Galassi, University of Bologna Yangxinyu Xie, University of Pennsylvania

Bonnie J Dorr, University of Florida Aoife Cahill, Dataminr Sofia Serrano, Lafayette College Hemank Lamba, Dataminr Inc Aylin Ece Gunal, University of Michigan - Ann Arbor Anthony Sicilia, Northeastern University Ines Rehbein, Universität Mannheim Neema Kotonya, Dataminr Ashwini Kamaraj, University of Zurich Christopher Klamm, Universität Mannheim Manaar Alam, New York University, Abu Dhabi Longfei Zuo, Ludwig-Maximilians-Universität München Jimin Mun, CMU, Carnegie Mellon University Julia Mendelsohn, University of Michigan - Ann Arbor Daniel Hershcovich, University of Copenhagen Ryan Luo Li, Algoverse Ana Sabina Uban, Universitatea Bucuresti Rodolfo Zevallos, Universitat Pompeu Fabra Lucas Rosenblatt, New York University Lama Moukheiber, Massachusetts Institute of Technology Karina H Halevy, Carnegie Mellon University Ziyu Yao, George Mason University Alok Kumar, Tata Consultancy Services Limited, India Johnny Wei, University of Southern California Nazanin Sabri, University of California, San Diego Azmine Toushik Wasi, Shahjalal University of Science and Technology Mai ElSherief, Northeastern University **Dipesh Singla**, IEEE Philipp Seeberger, Technische Hochschule Nürnberg Georg Simon Ohm Mert Inan, Northeastern University Prabin Bhandari, George Mason University Elisa Kreiss, University of California, Los Angeles Rong Li, University of Zurich Mira Moukheiber, Massachusetts Institute of Technology

Table of Contents

What is the social benefit of hate speech detection research? A Systematic Review Sidney Gig-Jan Wong
Multilingual Fact-Checking using LLMs Aryan Singhal, Thomas Law, Coby Kassner, Ayushman Gupta, Evan Duan, Aviral Damle and Ryan Luo Li 13
Transferring Fairness using Multi-Task Learning with Limited Demographic Information Carlos Alejandro Aguirre and Mark Dredze 32
Selecting Shots for Demographic Fairness in Few-Shot Learning with Large Language Models Carlos Alejandro Aguirre, Kuleen Sasse, Isabel Alyssa Cachola and Mark Dredze
Covert Bias: The Severity of Social Views' Unalignment in Language Models Towards Implicit and Explicit Opinion Abeer Aldayel, Areej Alokaili and Rehab Alahmadi
 PG-Story: Taxonomy, Dataset, and Evaluation for Ensuring Child-Safe Content for Story Generation Alicia Y. Tsai, Shereen Oraby, Anjali Narayan-Chen, Alessandra Cervone, Spandana Gella, Apurv Verma, Tagyoung Chung, Jing Huang and Nanyun Peng
Towards Explainable Multi-Label Text Classification: A Multi-Task Rationalisation Framework forIdentifying Indicators of Forced LabourErick Mendez Guzman, Viktor Schlegel and Riza Batista-Navarro
All Models are Wrong, But Some are Deadly: Inconsistencies in Emotion Detection in Suicide-related Tweets Annika Marie Schoene, Resmi Ramachandranpillai, Tomo Lazovich and Ricardo A. Baeza-Yates 113
<i>Efficient Aspect-Based Summarization of Climate Change Reports with Small Language Models</i> Iacopo Ghinassi, Leonardo Catalano and Tommaso Colella
An NLP Case Study on Predicting the Before and After of the Ukraine–Russia and Hamas–Israel Con- flicts
Jordan Miner and John E. Ortega 140
<i>Exploring the Jungle of Bias: Political Bias Attribution in Language Models via Dependency Analysis</i> David F. Jenny, Yann Billeter, Bernhard Schölkopf and Zhijing Jin
AgriLLM:Harnessing Transformers for Framer Queries Krish Didwania, Pratinav Seth, Aditya Kasliwal and Amit Agarwal 179
SciTechBaitRO: ClickBait Detection for Romanian Science and Technology News Raluca-Andreea Gînga and Ana Sabina Uban
Investigating Ableism in LLMs through Multi-turn Conversation Guojun Wu and Sarah Ebling
Eliciting Uncertainty in Chain-of-Thought to Mitigate Bias against Forecasting Harmful User Beha- viors Anthony Sicilia and Malihe Alikhani

Inferring Mental Burnout Discourse Across Reddit Communities Nazanin Sabri, Anh C. Pham, Ishita Kakkar and Mai ElSherief
Decoding Ableism in Large Language Models: An Intersectional Approach Rong Li, Ashwini Kamaraj, Jing Ma and Sarah Ebling
Explainable Identification of Hate Speech towards Islam using Graph Neural NetworksAzmine Toushik Wasi250
<i>From Text to Maps: LLM-Driven Extraction and Geotagging of Epidemiological Data</i> Karlyn K. Harrod, Prabin Bhandari and Antonios Anastasopoulos
Crafting Tomorrow's Headlines: Neural News Generation and Detection in English, Turkish, Hunga- rian, and Persian Cem Üyük, Danica Rovó, Shaghayeghkolli Shaghayeghkolli, Rabia Varol, Georg Groh and Dary- na Dementieva
Reference-Based Metrics Are Biased Against Blind and Low-Vision Users' Image Description Preferences Rhea Kapur and Elisa Kreiss
MultiClimate: Multimodal Stance Detection on Climate Change Videos Jiawen Wang, Longfei Zuo, Siyao Peng and Barbara Plank 315
AAVENUE: Detecting LLM Biases on NLU Tasks in AAVE via a Novel Benchmark Abhay Gupta, Ece Yurtseven, Philip Meng and Kevin Zhu
DiversityMedQA: A Benchmark for Assessing Demographic Biases in Medical Diagnosis using Large Language Models
Rajat Rawat, Hudson McBride, Dhiyaan Chakkresh Nirmal, Rajarshi Ghosh, Jong Moon, Dhruv Karthik Alamuri and Kevin Zhu
<i>Improving Industrial Safety by Auto-Generating Case-specific Preventive Recommendations</i> Sangameshwar Patil, Sumit Koundanya, Shubham Kumbhar and Alok Kumar

Program

Friday, November 15, 2024

- 09:00 09:05 Opening Remark
- 09:05 09:30 Opening Talk by Rada Mihalcea
- 09:30 09:55 Talk by Prof Yulia Tsvetkov (UW) & 5 min Q&A
- 10:00 10:25 Talk by Prof Anjalie Field (JHU) & 5 min Q&A
- 10:30 11:00 NGO Lightning Talk
- 11:00 12:00 Poster Session (In-Person and Virtual)

What is the social benefit of hate speech detection research? A Systematic Review Sidney Gig-Jan Wong

Multilingual Fact-Checking using LLMs

Aryan Singhal, Thomas Law, Coby Kassner, Ayushman Gupta, Evan Duan, Aviral Damle and Ryan Luo Li

Transferring Fairness using Multi-Task Learning with Limited Demographic Information Carlos Alejandro Aguirre and Mark Dredze

Selecting Shots for Demographic Fairness in Few-Shot Learning with Large Language Models

Carlos Alejandro Aguirre, Kuleen Sasse, Isabel Alyssa Cachola and Mark Dredze

CLIMB: A Benchmark of Clinical Bias in Large Language Models Yubo Zhang, Shudi Hou, Mingyu Derek Ma, Wei Wang, Muhao Chen and Jieyu Zhao

Covert Bias: The Severity of Social Views' Unalignment in Language Models Towards Implicit and Explicit Opinion

Abeer Aldayel, Areej Alokaili and Rehab Alahmadi

PG-Story: Taxonomy, Dataset, and Evaluation for Ensuring Child-Safe Content for Story Generation

Alicia Y. Tsai, Shereen Oraby, Anjali Narayan-Chen, Alessandra Cervone, Spandana Gella, Apurv Verma, Tagyoung Chung, Jing Huang and Nanyun Peng

Friday, November 15, 2024 (continued)

Towards Explainable Multi-Label Text Classification: A Multi-Task Rationalisation Framework for Identifying Indicators of Forced Labour Erick Mendez Guzman, Viktor Schlegel and Riza Batista-Navarro

All Models are Wrong, But Some are Deadly: Inconsistencies in Emotion Detection in Suicide-related Tweets

Annika Marie Schoene, Resmi Ramachandranpillai, Tomo Lazovich and Ricardo A. Baeza-Yates

Efficient Aspect-Based Summarization of Climate Change Reports with Small Language Models

Iacopo Ghinassi, Leonardo Catalano and Tommaso Colella

Uchaguzi-2022: A Dataset of Citizen Reports on the 2022 Kenyan Election

Roberto Mondini, Neema Kotonya, Robert L. Logan IV, Elizabeth M Olson, Angela Oduor Lungati, Daniel Duke Odongo, Tim Ombasa, Hemank Lamba, Aoife Cahill, Joel R. Tetreault and Alejandro Jaimes

CEHA: A Dataset of Conflict Events in the Horn of Africa

Rui Bai, Di Lu, Shihao Ran, Elizabeth M Olson, Hemank Lamba, Aoife Cahill, Joel R. Tetreault and Alejandro Jaimes

Operationalizing content moderation accuracyin the Digital Services Act Johnny Wei

An NLP Case Study on Predicting the Before and After of the Ukraine–Russia and Hamas–Israel Conflicts Jordan Miner and John E. Ortega

Exploring the Jungle of Bias: Political Bias Attribution in Language Models via Dependency Analysis

David F. Jenny, Yann Billeter, Bernhard Schölkopf and Zhijing Jin

AgriLLM:Harnessing Transformers for Framer Queries Krish Didwania, Pratinav Seth, Aditya Kasliwal and Amit Agarwal

SciTechBaitRO: ClickBait Detection for Romanian Science and Technology News Raluca-Andreea Gînga and Ana Sabina Uban

Investigating Ableism in LLMs through Multi-turn Conversation Guojun Wu and Sarah Ebling

Friday, November 15, 2024 (continued)

Eliciting Uncertainty in Chain-of-Thought to Mitigate Bias against Forecasting Harmful User Behaviors Anthony Sicilia and Malihe Alikhani

WildfireGPT: Tailored Large Language Model for Wildfire Analysis

Yangxinyu Xie, Bowen Jiang, Tanwi Mallick, John K Hutchison, Duane Rudolph Verner, Jordan Branham, M. Ross Alexander, Robert Ross, Yan Feng, Leslie-Anne Levy, Weijie J Su and Camillo Jose Taylor

Inferring Mental Burnout Discourse Across Reddit Communities Nazanin Sabri, Anh C. Pham, Ishita Kakkar and Mai ElSherief

Decoding Ableism in Large Language Models: An Intersectional Approach Rong Li, Ashwini Kamaraj, Jing Ma and Sarah Ebling

Explainable Identification of Hate Speech towards Islam using Graph Neural Networks Azmine Toushik Wasi

From Text to Maps: LLM-Driven Extraction and Geotagging of Epidemiological Data

Karlyn K. Harrod, Prabin Bhandari and Antonios Anastasopoulos

Crafting Tomorrow's Headlines: Neural News Generation and Detection in English, Turkish, Hungarian, and Persian

Cem Üyük, Danica Rovó, Shaghayeghkolli Shaghayeghkolli, Rabia Varol, Georg Groh and Daryna Dementieva

Reference-Based Metrics Are Biased Against Blind and Low-Vision Users' Image Description Preferences Rhea Kapur and Elisa Kreiss

MultiClimate: Multimodal Stance Detection on Climate Change Videos Jiawen Wang, Longfei Zuo, Siyao Peng and Barbara Plank

AAVENUE: Detecting LLM Biases on NLU Tasks in AAVE via a Novel Benchmark Abhay Gupta, Ece Yurtseven, Philip Meng and Kevin Zhu

DiversityMedQA: A Benchmark for Assessing Demographic Biases in Medical Diagnosis using Large Language Models

Rajat Rawat, Hudson McBride, Dhiyaan Chakkresh Nirmal, Rajarshi Ghosh, Jong Moon, Dhruv Karthik Alamuri and Kevin Zhu

Friday, November 15, 2024 (continued)

Improving Industrial Safety by Auto-Generating Case-specific Preventive Recommendations

Sangameshwar Patil, Sumit Koundanya, Shubham Kumbhar and Alok Kumar

From Predictions to Analyses: Explainable Rationales-Augmented Fake News Detection with Large Vision-Language Models Xiaofan Zheng, Zinan Zeng, Heng Wang, Yuyang Bai, Yuhan Liu and Minnan Luo

- 12:00 13:00 Lunch Break
- 13:00 13:25 Talk by Prof Mrinmaya Sachan (ETH) & 5 min Q&A
- 13:30 13:55 Talk by Stephen Mayhew (Duolingo) & 5 min Q&A
- 14:00 14:25 Talk by Prof Veronica Perez-Rosa (Texas State University) and 5 min Q&A
- 14:30 14:55 Talk by Prof Louis-Philippe Morency (CMU) & 5 min Q&A
- 15:00 15:30 Oral Talk Sessions (5 Talks of 5 min each & 5 min Q&A in the end)
- 15:30 15:45 Coffee Break by EMNLP
- 15:45 16:05 Special Theme Digital Violence: NGO Talk by Cordelia Moore
- 16:05 17:00 Panel Conversation
- 17:00 17:45 Research Brainstorming: NLP for Social Good
- 17:45 18:00 Best Paper Announcement & Closing