

1st Workshop on NLP for Science (NLPScience 2024)

Miami, Florida, USA
16 November 2024

ISBN: 979-8-3313-0852-0

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2024) by the Association for Computational Linguistics
All rights reserved.

Printed with permission by Curran Associates, Inc. (2025)

For permission requests, please contact the Association for Computational Linguistics
at the address below.

Association for Computational Linguistics
209 N. Eighth Street
Stroudsburg, Pennsylvania 18360

Phone: 1-570-476-8006
Fax: 1-570-476-0860

acl@aclweb.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

<i>TokenSHAP: Interpreting Large Language Models with Monte Carlo Shapley Value Estimation</i> Miriam Horovicz and Roni Goldshmidt	1
<i>Prediction of CRISPR On-Target Effects via Deep Learning</i> Condyl Bao and Fuxiao Liu	9
<i>What an Elegant Bridge: Multilingual LLMs are Biased Similarly in Different Languages</i> Viktor Mihaylov and Aleksandar Shtedritski	16
<i>PsychoLex: Unveiling the Psychological Mind of Large Language Models</i> Mohammad Amin Abbasi, Farnaz Sadat Mirnezami and Hassan Naderi	24
<i>Two-Stage Graph-Augmented Summarization of Scientific Documents</i> Rezvaneh Rezapour, Yubin Ge, Kanyao Han, Ray Jeong and Jana Diesner	36
<i>GCD-TM: Graph-Driven Community Detection for Topic Modelling in Psychiatry Texts</i> Anusuya Krishnan and Isaias Mehari Ghebrehwet	47
<i>SCITUNE: Aligning Large Language Models with Human-Curated Scientific Multimodal Instructions</i> Sameera Horawalavithana, Sai Munikoti, Ian Stewart, Henry Kvinge and Karl Pazdernik	58
<i>RACER: An LLM-powered Methodology for Scalable Analysis of Semi-structured Mental Health Interviews</i> Satpreet Harcharan Singh, Kevin Jiang, Kanchan Bhasin, Ashutosh Sabharwal, Nidal Moukaddam and Ankit Patel	73
<i>Soft Measures for Extracting Causal Collective Intelligence</i> Maryam Berijanian, Spencer Dork, Kuldeep Singh, Michael Riley Millikan, Ashlin Riggs, Aadarsh Swaminathan, Sarah L. Gibbs, Scott E. Friedman and Nathan Brugnone	99
<i>Hypothesis Generation with Large Language Models</i> Yangqiaoyu Zhou, Haokun Liu, Tejes Srivastava, Hongyuan Mei and Chenhao Tan	117
<i>Dreaming with ChatGPT: Unraveling the Challenges of LLMs Dream Generation</i> Harel Berger, Hadar King and Omer David	140
<i>LLMs and NLP for Generalized Learning in AI-Enhanced Educational Videos and Powering Curated Videos with Generative Intelligence</i> Naina Chaturvedi	148
<i>The Moral Foundations Weibo Corpus</i> Renjie Cao, Miaoyan Hu, Jiahao Wei and Baha Ihnaini	155
<i>Why So Serious: Humor and its Association with Treatment Measurements Process and Outcome</i> Matan Kenigsbuch and Natalie Shapira	166
<i>Learning the Bitter Lesson: Empirical Evidence from 20 Years of CVPR Proceedings</i> Mojtaba Yousefi and Jack Collins	175
<i>Personalized-ABA: Personalized Treatment Plan Generation for Applied Behavior Analysis using Natural Language Processing</i> Aman Kumar, Mareiko Au, Raj Semlawat, Malavica Sridhar and Hitesh Gurnani	188

<i>Exploring Scientific Hypothesis Generation with Mamba</i>	
Miaosen Chai, Emily Herron, Erick Cervantes and Tirthankar Ghosal	197
<i>Benchmarking Automated Theorem Proving with Large Language Models</i>	
Vanessa Lama, Catherine Ma and Tirthankar Ghosal	208
<i>The Grid: A semi-automated tool to support expert-driven modeling</i>	
Allegra A. Beal Cohen, Maria Alexeeva, Keith Alcock and Mihai Surdeanu	219
<i>Categorical Syllogisms Revisited: A Review of the Logical Reasoning Abilities of LLMs for Analyzing Categorical Syllogisms</i>	
Shi Zong and Jimmy Lin	230
<i>Individuation in Neural Models with and without Visual Grounding</i>	
Alexey Tikhonov, Lisa Bylinina and Ivan P. Yamshchikov	240
<i>CogErgLLM: Exploring Large Language Model Systems Design Perspective Using Cognitive Ergonomics</i>	
Azmine Toushik Wasi and Mst Rafia Islam	249