

Responsible NLP Checklist

Paper title: *Adaptive Prompt Structure Factorization: A Framework for Self-Discovering and Optimizing Compositional Prompt Programs*

Authors: *Haoyue Liu, Zhichao Wang, Yongxin Guo, Haoran Shou, Xiaoying Tang*

How to read the checklist symbols:

- the authors responded 'yes'
- the authors responded 'no'
- N/A the authors indicated that the question does not apply to their work
- the authors did not respond to the checkbox question

For background on the checklist and guidance provided to the authors, see the [Responsible NLP Checklist](#) page at ACL Rolling Review.

A. Questions mandatory for all submissions.

- A1. Did you describe the limitations of your work?

This paper has a Limitations section.

- A2. Did you discuss any potential risks of your work?

Section 7("Ethical Considerations").

B. Did you use or create scientific artifacts? (e.g. code, datasets, models)

- B4. Did you discuss the steps taken to check whether the data that was collected/used contains any information that names or uniquely identifies individual people or offensive content, and the steps taken to protect/anonymize it?

No. We use only established, publicly available benchmark datasets and do not collect, modify, or annotate any new data. Therefore, we did not conduct additional PII or offensive-content screening beyond relying on the original dataset releases, documentation, and licenses.

- B6. Did you report relevant statistics like the number of examples, details of train/test/dev splits, etc. for the data that you used/created?

Appendix: Evaluation Protocol, subsection Data Splitting, Table tab:data_split (fixed validation slice size of 50 examples per task and test set sizes; test sets follow official benchmarks where available). We also list the benchmarks used in Section 4.1 (Benchmarks and baselines) and summarize them in Appendix: Datasets and Licenses, Table tab:datasets.

C. Did you run computational experiments?

- C2. Did you discuss the experimental setup, including hyperparameter search and best-found hyperparameter values?

Yes. See Section 4.1 ("Experimental Setup and Protocol"), Appendix: Hyperparameter Sensitivity Analysis, and Appendix: Model Configurations for experimental settings and hyperparameters.

- C3. Did you report descriptive statistics about your results (e.g., error bars around results, summary statistics from sets of experiments), and is it transparent whether you are reporting the max, mean, etc. or just a single run?

Yes. We report mean std over 5 independent runs in the main results tables (e.g., Tables 13) and describe the evaluation protocol, random seeds, and sources of stochasticity in Section 4.1 ("Experimental Setup and Protocol").

The Responsible NLP Checklist used at ACL Rolling Review is adopted from NAACL 2022, with the addition of ACL 2023 question on AI writing assistance and further refinements based on ARR practice. ACL 2026 used a subset of ARR checklist form.

D. Did you use human annotators (e.g., crowdworkers) or research with human subjects?

D1. Did you report the full text of instructions given to participants, including e.g., screenshots, disclaimers of any risks to participants or annotators, etc.?
(left blank)

D2. Did you report information about how you recruited (e.g., crowdsourcing platform, students) and paid participants, and discuss if such payment is adequate given the participants' demographic (e.g., country of residence)?
(left blank)

D3. Did you discuss whether and how consent was obtained from people whose data you're using/curating (e.g., did your instructions explain how the data would be used)?
(left blank)

D4. Was the data collection protocol approved (or determined exempt) by an ethics review board?
(left blank)

E. Did you use AI assistants (e.g., ChatGPT, Copilot) in your research, coding, or writing?

E1. If you used AI assistants, did you include information about their use?
Appendix: Reproducibility Checklist