Skoltech
Skolkovo Institute of Science and Technology

Jury Member Report – Doctor of Philosophy thesis.

Name of Candidate: Anton Razzhigaev

PhD Program: Computational and Data Science and Engineering

Title of Thesis: Crossroads of text, vision, and graph models: advancing multimodal systems

Supervisor: Associate Professor Alexander Panchenko
Co-supervisor: Dr. Andrey Kuznetsov

Name of the Reviewer: Nikolay Arefyev

I confirm the absence of any conflict of interest (Alternatively, Reviewer can formulate a possible conflict)	**Date: 04-09-2024**

The purpose of this report is to obtain an independent review from the members of PhD defense Jury before the thesis defense. The members of PhD defense Jury are asked to submit signed copy of the report at least 30 days prior the thesis defense. The Reviewers are asked to bring a copy of the completed report to the thesis defense and to discuss the contents of each report with each other before the thesis defense.

If the reviewers have any queries about the thesis which they wish to raise in advance, please contact the Chair of the Jury.

Reviewer's Report

Reviewers report should contain the following items:

- Brief evaluation of the thesis quality and overall structure of the dissertation.
- The relevance of the topic of dissertation work to its actual content
- The relevance of the methods used in the dissertation
- The scientific significance of the results obtained and their compliance with the international level and current state of the art
- The relevance of the obtained results to applications (if applicable)
- The quality of publications
- The summary of issues to be addressed before/during the thesis defense

The content of the thesis is relevant to the topic. The thesis describes several multimodal tasks and proposes approaches to their solution. The tasks include question answering incorporating both natural language and knowledge graph modelities, image generation given a textual description, multimodal dialogue generation. Methods employed by the author are relevant to the main goals. The author employs recent neural network architectures and models, proposes reasonable ideas and explores their effectiveness using well-established benchmarks and baselines. The presented ideas and results are on par with the international research on the corresponding topics, which is supported by the publications in the top-level venues.
The structure of the thesis follows the papers published by the author. The text is well written and reasonably structured. Model descriptions are accompanied by diagrams and examples helping to understand their structure. Experimental results are adequately presented.

Provisional Recommendation

☒ *I recommend that the candidate should defend the thesis by means of a formal thesis defense*

☐ *I recommend that the candidate should defend the thesis by means of a formal thesis defense only after appropriate changes would be introduced in candidate's thesis according to the recommendations of the present report*

☐ *The thesis is not acceptable and I recommend that the candidate be exempt from the formal thesis defense*