Manuscript title: *Framelet Based Dual Hypergraph Neural Networks for Student Engagement Prediction*
Short Paper-22: AI4ED-AAAI-2024 Day1 Poster
Authors: Ming Li, Jiandong Shi

COVER LETTER

Dear AI4Ed Steering Committee at AAAI 2024,

I am enclosing herewith the camera-ready version of our manuscript entitled '*Framelet Based Dual Hypergraph Neural Networks for Student Engagement Prediction*' (AI4ED-AAAI-2024 Day1 Poster), which was accepted by AAAI 2024 Workshop AI4ED as a short paper. The manuscript has been modified and extended in compliance with the three Reviewers' comments.

All the details about the changes effectively made are listed in the enclosed "**ANSWER TO COMMENTS**". We believe we have made all the suggested improvements and we hope to have given satisfying answers to them.

Sincerely yours,
On behalf of the authors of the manuscript,

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ANSWER TO COMMENTS

In the following, we give detailed answers to the comments of two Reviewers. The original texts from the reviewers are in **bold** font. Our answers are in normal font. For your convenience, all the contents copied and pasted from our revised manuscript are displayed in blue.

Answer to Comments of Reviewer #1

The paper discusses an important problem of student engagement prediction by proposing a dual hyper-graph neural network. The paper is well-written, and the details of the framework and the results are well-defined. The proposed solution is shown to work better than other baselines. I have a few comments:

Thank you for your insightful comments. We provide point-to-point responses as follows:

It would be good to include some related work on engagement prediction in general and in the context of education.

Thank you for highlighting this point. For those interested in delving deeper into related works on student engagement prediction, we kindly direct your attention to our recent parallel work [1], published in the Information Fusion journal. Specifically, Section 2.2 of this publication offers a comprehensive review of the field. Due to the page constraints associated with the short paper format for AI4ED-AAAI-2024 Day 1 Poster session, we were unable to include these discussions directly in our current context. We believe that referencing our previous work allows us to maintain the conciseness of our presentation while ensuring that readers have access to a broader discussion on the topic.
[1] Li, M., Zhuang, X., Bai, L., & Ding, W. (2024). Multimodal graph learning based on 3D Haar semi-tight framelet for student engagement prediction. *Information Fusion*, 105, 102224.

A case study/ error analysis to understand the model predictions would be helpful.

Thank you for your insightful comment. We acknowledge the importance of conducting a case study or error analysis to deepen our understanding of the model's predictions. At present, our project is still in progress, and we are actively working towards providing a more comprehensive analysis in the extended version of our work. The initial results presented in this short version have indeed motivated us to further explore the poten-

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tial merits and advantages of our proposed framework. We are enthusiastic about the prospect of enhancing our methodology with a more sophisticated framework to tackle a variety of educational data mining challenges, such as student performance prediction. This advancement aims to broaden the applicability of our approach to address complex issues within the educational sector.
These aspects represent intriguing directions for our future research.

It would be good to make the code public to facilitate further research.

Thank you for your comment and the interest in our work. We fully understand the importance of making our code public to facilitate further research and collaboration within the community. Currently, our work is still ongoing, and we are committed to conducting more empirical studies from various perspectives. This approach is crucial for us to thoroughly verify the potential advantages of our proposed method. We want to ensure that when we do release our code, it is as useful and reliable as possible for the research community. After completing these additional studies and solidifying our findings, we plan to release our code publicly. We appreciate your patience and support in this endeavor and look forward to contributing to the advancement of our field.

Answer to Comments of Reviewer #2

The paper proposes a novel framelet transform, designed to proficiently convert student's visual features into sets of low-pass and high-pass coefficients. The proposed work is clear and the method provides clarity on how the modules come together to represent the classification of engagement levels of students. The experiments section show the effectiveness of method.

Thank you very much for your kind approval and meticulous review.

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