# Editorial Acknowledgment

This issue features seven articles that will be presented at the 17th International Conference on Educational Data Mining (EDM 2024) in the JEDM Journal Track at EDM 2024 that will take place in Atlanta, USA, July 14-17, 2024. This issue features as well three regular articles and three articles selected by the program chairs of the 16th International Conference on Educational Data Mining (EDM 2023); these articles are extended versions of papers presented at EDM 2022, and that could not be published in the corresponding special section of the December Issue of JEDM in 2023.

For the tenth time, EDM 2024 will hold a Journal track allowing papers submitted to JEDM to be presented at the conference. The JEDM Track at EDM 2024 received 17 submissions, among which seven made it to the final stage in time for publication in this issue. We are pleased to publish the following works.

**Yang Shi**, **Robin Schmucker**, **Keith Tran**, **John Bacher**, **Kenneth Koedinger**, **Thomas Price**, **Min Chi**, and **Tiffany Barnes** address the *knowledge component (KC) attribution problem* among computer programming students. This refers to the difficulty in attributing student errors to specific KCs, as programming requires students to practice several KCs at the same time. Their supervised code2vec model trained on expert-defined KCs achieved AUCs of 75% or higher. Subsequent experiments showed how the inclusion of submission correctness and learning curves into the model can help with KC attribution.

The paper *Automated Evaluation of Classroom Instructional Support with LLMs and BoWs: Connecting Global Predictions to Specific Feedback* by **Jacob Whitehill** and **Jennifer LoCasale-Crouch** compares the use of Large Language Models (LLMs) and Bag of Words (BoW) models to analyze the presence of Instructional Support in teachers' speech and estimate a global CLassroom Assessment Scoring System (CLASS) score. One finding is that "LLMs generally yield slightly greater accuracy than BoW, though the best models often combined features extracted from both LLM and BoW".

In the paper, *An Approach to Improve k-Anonymization Practices in Educational Data Mining* **Frank Stinar, Zihan Xiong,** and **Nigel Bosch** propose a framework to k-anonymize students' data while preserving the utility of the dataset for data mining tasks. Their evaluation shows that the downstream machine learning accuracy is improved by 30.59% when using their framework over baseline data anonymization.

The paper *Exploring the Impact of Symbol Spacing and Problem Sequencing on Arithmetic Performance: An Educational Data Mining Approach* by **Avery Harrison Closser, Anthony F. Botelho** and **Jenny Yun-Chen Chan** revisit an earlier study on manipulating the spacing between symbols in arithmetic expressions and its effect on students' performance. They find that problem composition and problem order may have caused unintended effects in the earlier study and draw methodological implications for educational researchers.

**Kirk Vanacore, Ashish Gurung, Adam Sales,** and **Neil Heffernan** build on previous research to test various ways of proactively discouraging students from gaming the system. In this study they compare the effects delaying hint access to the *effects of gamification* (not to be confused with gaming the system). Specifically, they combine established methods in a novel way, using a fully latent principal stratification for causal inference to examine detectors of gaming the system.

**John Stamper**, **Steven Moore**, **Carolyn P. Rose**, **Philip I. Pavlik, Jr.**, and **Kenneth Koedinger** present *LearnSphere*, a web-based data infrastructure that integrates previously siloed educational data and analytic resources, one of which is DataShop. In an atmosphere that is increasingly concerned about AI ethics, LearnSphere's structure and in so doing shows how this tool contributes to model transparency and explainability by enabling reproducibility and replicability of experiments.

**Md Akib Zabed Khan** and **Agoritsa Polyzou** discuss a *recommendation system* that helps students manage their academic load. The system suggests courses from the upcoming semester that are best suited to be taken together. The authors use information from past students about co-taken courses as basis for establishing the relationship between courses and their compatibility. The authors found that this session-based method for arriving at recommendations outperforms existing approaches based on course popularity, association, similarity, and others.

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