Hybrid Intelligence in Learning Analytics (HYBRID)

3rd March 2025, 13:30–17:00 GMT, Dublin, as part of LAK25 Conference

This workshop was organised as part of the pre-conference program for the 14th International Conference on Learning Analytics and Knowledge (LAK'25). The Hybrid Intelligence in Learning Analytics (HYBRID) workshop was designed as an in-person event, held in the afternoon on 3rd March 2025.

The goal of this HYBRID workshop was to initiate dialogue and foster collaboration between researchers and practitioners exploring the intersection of Hybrid Intelligence (HI) and Learning Analytics (LA). Rooted in the premise that neither humans nor artificial intelligence alone can achieve optimal outcomes, Hybrid Intelligence seeks to harness the complementary strengths of both through mutual adaptation and cooperation. This first edition of the workshop served as a platform to conceptualize and critically examine how Hybrid Intelligence can transform learning analytics, moving toward more adaptive, context-aware, and ethically grounded educational systems.

By bringing together a transdisciplinary group of learning scientists, software engineers, learning analytics researchers, and AI specialists, the workshop aimed to lay the groundwork for a shared research agenda. Discussions focused on how to design, implement, and evaluate HI-infused educational technologies that meaningfully support teaching, learning, and assessment. The event also sought to catalyze the formation of a research community around HI in educational settings.

There were six short papers accepted and presented at the workshop. These contributions covered a wide range of topics, including AI-augmented feedback, adaptive curriculum design, embodied learning, mixed reality applications, and the dynamics of teacher-AI collaboration. All sevenpapers included in this volume were submitted for CEUR publication and accepted as short papers after review by the organizing committee.

- *Enhancing Hybrid Learning: The Role of Multimodal Adaptive Feedback in Human-AI Collaboration* by AboulHassane Cisse
- *Teacher-GenAI Collaboration to Enhance Formative Feedback* by Jostein Kleveland, Michail Giannakos, Anders Lindvig, and Yngve Lindvig
- *The Role of Teacher-AI Collaboration in Curriculum Adaptivity: A Case in Primary School Mathematics* by Susanne M.M. de Mooij, Zowi Vermeire, Carolien A.N. Knoop-van Campen, and Inge Molenaar
- *Teacher-AI Complementarity: From Design to Implementation and Reflection* by Pankaj Chejara, Kairit Tammets, Mart Laanpere, Annika Volt, Reet Kasepalu, Edna Milena Sarmiento-Márquez, and Linda Helene Sillat
- *Bridging AI and Human Feedback: Hybrid Intelligence in Embodied Math Education* by Giulia Cosentino, Jacqueline Anton, Kshitij Sharma, Mirko Gelsomini, Michail Giannakos, and Dor Abrahamson
- *Stimulating Active Learning Through Learner-AI Interactions in Mixed Reality for Hybrid Intelligence* by Belle Dang, Faaiz Gul, Luna Huynh, and Andy Nguyen

- *Operationalizing Hybrid Intelligence in Learning Analytics: A Scalable, Inclusive, and Adaptive System for Large-Scale Online Education* by Arshee Rizvi, Farheen Rizvi, and Yatin Diwakar

The workshop began with a welcome and introduction that outlined the scope and ambitions of Hybrid Intelligence in the context of learning analytics. This was followed by a series of invited speeches from leading experts, providing diverse perspectives on the conceptual and practical challenges of HI. A panel discussion further explored key themes and open questions in the field, including the distinctions between HI and AI-driven approaches, the evolving role of learning analytics, and strategies for assessing human-AI collaboration. The core of the workshop featured the presentation of six research showcases, each highlighting innovative approaches to human-AI collaboration in educational settings. The roundtable discussion and panel together played a pivotal role in shaping the emerging research agenda for Hybrid Intelligence, fostering a shared understanding of key challenges and opportunities. The workshop concluded with a collaborative design session, where participants collectively envisioned future directions for Hybrid Intelligence systems in learning analytics.

We would like to sincerely thank all the authors and presenters for their contributions to the workshop, as well as all participants for their active engagement in discussions. We are especially grateful to our invited speakers and the organizing committee for their insightful guest speeches and contributions to the panel discussion, which provided valuable perspectives and helped shape the collective dialogue.

Organizing Committee

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