callforpaper.org

Italy July 22-26, 2025

CONFERENCE WEBSITE: https://aied2025.itd.cnr.it/

About the Conference

Artificial Intelligence (AI) is progressing at an unprecedented rate, with generative AI and related technologies leading this transformative shift. These advancements are set to reshape education in significant ways, offering novel opportunities to enhance both teaching and learning processes. At the same time, more ‘traditional’ AI techniques continue to be developed, bringing in new insights. AI is expanding the horizons of what is achievable in education, enabling the creation of personalised and dynamic learning experiences. As these technologies continue to evolve, they equip educators with powerful tools to gain deeper insights into student needs, tailor instruction and resources to individual learning paths, and promote greater student engagement. AI is no longer merely an auxiliary tool — it is fundamentally transforming the core of educational practices, making learning environments more adaptive, accessible, and impactful.

The AIED 2025 conference, themed “AI as a Catalyst for Inclusive, Personalised, and Ethical

Important Dates

JUL 22

CONFERENCE DATE

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Education: Empowering Teachers and Students for an Equitable Future," centers on the transformative potential of AI in fostering greater equity within education. By harnessing AI's capacity to personalise learning experiences, educators can address the diverse needs of students and mitigate educational disparities, particularly among underserved and marginalised communities. This year's theme also underscores the critical importance of ethical AI integration, ensuring that these advanced technologies are deployed responsibly to uphold principles of fairness, transparency, and privacy. We welcome submissions that investigate how AI can act as a catalyst for cultivating a more equitable and inclusive educational environment, ultimately empowering both teachers and students in the pursuit of a more just and accessible future.

AIED 2025 will be the 26th edition of this conference series. The AIED Society, organiser of the AIED conference, aims at advancing science and engineering of intelligent human-technology ecosystems that support learning. The conference will be the latest of a longstanding series of international conferences, known for high quality and innovative research on AI-assisted systems and cognitive science approaches for educational computing applications. AIED is ranked A in CORE (top 16% of all 783 ranked venues), the well-known ranking of computer science conferences. AIED is a venue for researchers, decision makers, stakeholders and practitioners in the areas of AI in Education, and especially welcomes teachers and industry, particularly SMEs involved in AIED. Due to the growth of this important area, AIED 2025 is

implementing for the first time a track-based system.

Thus, for its main paper submissions, AIED 2025 solicits empirical and theoretical papers relating to both AI and education in the following lines of research and application, which represent our research tracks:

AIED architectures and tools
Papers submitted to this track should describe novel advances related to the software engineering of AIED systems and the development of such systems. Papers may be concerned with describing proof-of-concepts that demonstrate the feasibility of novel techniques, as well as real-world implementations that show the potential for reuse or adaptation by other researchers. Example research areas with applications in education include, but are not limited to, multi-agent architectures; tangible interfaces, wearables; speech technologies; virtual and augmented reality. Innovative, domain-specific learning application architectures and tools also find a home in this track, e.g. language, science, engineering, mathematics, medicine, military, industry, sports and more); scaling up and large-scale deployment of AIED systems. While papers may describe a user evaluation of the system or tool, the primary scientific contribution of papers submitted to this track should be technical and systems-oriented.

Machine learning and Generative AI
Papers submitted to this track should describe advances in or applications of AI-based techniques

within education, involving knowledge representation and machine learning. Generative AI-based techniques are also welcome within this track. Data-driven processing techniques (educational data mining, deep learning, machine learning) in education will constitute the main focus of this track. Example areas are natural language processing for education, video data mining for education, etc. Papers will likely address novel contributions related to modeling learner, teacher, and other stakeholder processes and outcomes, or contributions to representing learning domains. Evaluation techniques in this track rely on computational analyses. While papers will likely describe evaluations on previous datasets or newly collected data, the primary scientific contribution of these papers will be to AI and its application.

Learning, teaching and pedagogy
Papers submitted to this track should describe approaches to teaching, learning and evaluations of AIED systems that relate to pedagogical techniques, learning processes, and outcomes, conceived broadly. Both quantitative and qualitative analysis, as well as mixed-methods approaches are encouraged under this paper category. AIED systems targeted here include, but are not limited, to: AI-assisted tutoring and scaffolding; Motivational diagnosis and feedback; Learner engagement; Interactive pedagogical agents and learning companions; Agents that promote metacognition, motivation and positive affect; Adaptive question-answering and dialogue, Data-driven modeling (educational data mining, deep learning, machine learning,…); Learning

analytics and teaching support, Learning with simulations; Explainability of models for teaching and learning. Learning targeted here refers to both formal and informal learning, including game-based learning; collaborative and group learning; social networks; inquiry learning; social dimensions of learning; communities of practice; ubiquitous learning environments; learning through construction and making; learning grid; lifelong learning; learning in informal settings (museum, workplace, etc.); learning in the physical space; learning of motor skills. Evaluations here include studies on human learning. Learning spaces include massive open online courses; remote learning in k-12 schools; synchronous and asynchronous learning; mobile learning; active learning in virtual settings; video-based learning; mixed reality and learning. Papers may involve a novel system or a previously existing system, but the primary scientific contribution should be towards understanding the effects of the system and its features on learners, teachers, or other stakeholders.

Human-centered design and design-based research

Papers submitted to this track should address design principles for AIED systems or methods for designing such systems, as well as broadening understanding of contextual and individual factors that might inform users’ interactions with these systems. Papers submitted to this track can explore the design, use, and evaluation of human-AI hybrid systems for learning: research that explores the potential of human-AI interaction in educational contexts; systems and approaches in

which educational stakeholders and AI tools build upon each other’s complementary strengths to achieve educational outcomes and/or improve mutually. Solutions explored in this track include human-AI partnership: shared decision making between systems and users that promote agency and improve learning. Both quantitative and qualitative analysis user-centered design methods are encouraged under this paper category. Papers may involve the study of systems or prototypes that do not currently contain AI, as long as the primary purpose of the paper is to inform the design of AIED systems, putting the user (human) in the center. Evaluations in this track include: Studies on human cognition, affect, motivation, engagement, and attitudes; design and formative studies of AIED systems. While these papers may also involve the development of a mockup for a new system, the primary scientific contribution should be towards principles for the design of features of similar systems in similar contexts.

Teaching AI
Papers submitted to this track should involve methods, principles, or technologies for teaching AI or supporting the development of AI literacy. This includes studies on skills and knowledge that enable individuals to understand, use, and critically evaluate AI; definitions of AI literacy; learning to use AI; developing a basic understanding of how AI works; learning to communicate and collaborate with AI; learning to live with AI, understanding limitations and problems of AI. This track especially welcomes work done by or in collaboration with teachers at all levels, from primary to university education.

Papers in this track should preferably be based on empirical studies, including small-scale, classroom sized studies; although larger scale studies and theoretical contributions around the topic of teaching AI are also welcomed. Thus, the primary scientific contribution should be towards analysing or improving methods of teaching AI and development of AI literacy.

Ethics, Equity, and AIED in Society
Papers submitted to this track should take a perspective on AIED as it relates to society at different levels, more broadly, including the ethics of AIED, or designing AIED systems for a more equitable and just future. This includes AIED equity and inclusion-related theoretical or practical studies on socio-economic, gender, and racial issues; AI-assisted techniques to support students from under-resourced schools and communities; sponsorship, scientific validity, participant's rights and responsibilities, data collection, management and dissemination. Additionally, it includes papers on ethics of AI in education, such as papers on explainability, transparency, accountability, and responsible AIED; learner consent and opt out; surveillance and privacy; the impact of AIED on teachers, learners and classrooms from an ethics perspective; teacher empowerment and student agency; the community's responsibility for commercial applications; AIED ethical frameworks and principles for application. This track also includes AIED for development themes, such as leveraging AI technology to address and improve various aspects of development in societies and education, particularly in low and middle-income countries; AIED divide; AIED unplugged; Low-cost

solutions; low-tech solutions; frugal Innovation; Jugaad Innovation. These papers may include systematic reviews of the literature or position papers on a particular issue. Both empirical results and theory are welcome in this track, with the primary contribution towards ethics, equity and society.

Theoretical aspects of AIED and AI-based modelling for Education

Papers submitted to this track should include conceptual or theoretical models, knowledge representation and models, or reasoning related to AIED and human interaction with AIED systems. Papers will likely address novel contributions related to modelling learner (including open learner models), teacher, and other stakeholder modelling processes, or contributions to representing learning domains. Other areas include, but are not limited, to: modelling of facilitators, tasks and problem-solving processes; models of groups and communities for learning; modeling motivation, metacognition, and affective aspects of learning; ontological modeling; computational thinking and model-building; representing and analysing activity flow and discourse during learning; representing and modeling psychomotor learning. Expanding and evaluating cognitive, motivational and affective theories within AIED context also constitutes a target of this track. Papers in this track can further be using bottom-up and top-down approaches to analyse data, in order to inform motivational, learning, cognitive theories and gain better understanding of the socio-cognitive nature of learning. The primary contribution of these papers

can be of empirical results analysing theoretical aspects, or direct contributions to theories and theoretical models applicable to AIED.