

ITS 2024

Thessaloniki
GREECE
10-13 JUNE



20TH INTERNATIONAL CONFERENCE ON Intelligent Tutoring Systems

“GENERATIVE INTELLIGENCE and ITS”



TUESDAY,
JUNE 11

📍 MAIN CONFERENCE (AMPHITHEATRE WAR MUSEUM)

Address: Gr. Lampraki Str 4, Thessaloniki 546 36

TUESDAY, JUNE 11 9.00 - 9.30 a.m. REGISTRATION

OPENING CEREMONY

9.30 - 10.00

ACCESS TO THE SESSION

Greetings from the General Chair and the Program Chairs: **Prof. Claude Frasson**, **Prof. Oscar Lin**, and **Prof. Angelo Sifaleras**

Greetings from the University of Macedonia Authorities

Greetings from the Organization Chair: **Dr. Kitty Panourgia**

10.00 - 11.00

ACCESS TO THE SESSION

Keynote Speech

Eftychios Protopapadakis (University of Macedonia, Greece)

Unleashing Potential: Harnessing the Power of Generative AI in Intelligent Tutoring Systems

11.00 - 11.30

COFFEE BREAK

11.30 - 13.30

SESSIONS 1 & 2: TRACK 1 - INTELLIGENT TUTORING SYSTEMS

Session 1 : Online

Session Chair: TBA

ACCESS TO THE SESSION

T1:#65

Francesco Orciuoli, Angelo Gaeta, Antonella Pascuzzo and Angela Peduto (F)

Evaluating the ability of Large Language Models to generate motivational feedback

T1:#73

Guy Carlos Tamkadjou Tchio, Roger Nkambou and Valéry Psyché (F)

Towards Cognitive Coaching in Aircraft Piloting Tasks: Building an ACT-R Synthetic Pilot Integrating an Ontological Reference Model to Assist the Pilot and Manage Deviations

T1:#20

Viktor Uglev and Georgiy Smirnov (F)

Combined maps as a tool of concentration and visualization of knowledge in the logic of operation of the Intelligent Tutoring Systems

T1:#26

Raymond Morland, Lawrence Wang and Fuhua Lin (F)

Fast Weakness Identification for Adaptive Feedback

Session 2 : Onsite

Session Chair: TBA

ACCESS TO THE SESSION

T1:#11*

Jaume Arnau-Blasco, Miguel Arevalillo-Herráez, Sergi Solera-Monforte and Yuyan Wu (F)

Using Large Language Models to Support Teaching and Learning of Word Problem Solving in Tutoring Systems

T1:#18*

Yuyan Wu, Miguel Arevalillo-Herráez and Sergi Solera-Monforte (F)

A Generative Approach for Proactive Assistance Forecasting in Intelligent Tutoring Environments

T1:#29*

Fuhua Lin, Raymond Morland and Hongxin Yan (F)

QuizMaster: An Adaptive Learning System for Formative Assessment

T1:#32*

Sandeep Kakar, Pratyusha Maiti, Karan Taneja, Alekhya Nandula, Gina Nguyen, Aiden Zhao, Vrinda Nandan and Ashok Goel (F)

Jill Watson: Scaling and Deploying an AI Conversational Agent in Online Classrooms

* Onsite presentation



13.30 – 14.30

LUNCH

14.30 – 17.30

SESSIONS 3 & 4: TRACK 1 - INTELLIGENT TUTORING SYSTEMS

Session 3: Online

Session Chair: TBA

ACCESS TO THE SESSION

T1:#80

Ashish Garg and Ramkumar Rajendran (F)

Analyzing the role of Generative AI in fostering self-directed learning through Structured prompt engineering

T1:#30

Michael Pin-Chuan Lin, Daniel Chang, Sarah Hall and Gaganpreet Jhaji (F)

Preliminary Systematic Review of Open-Source Large Language Models in Education

T1:#33

Yanggyu Lee, Suchae Jeong and Jihie Kim (F)

Improving LLM Classification of Logical Errors by Integrating Error Relationship into Prompts

T1:#84

Kirill Kulyukin, Grigoriy Yakimov and Oleg Sychev (F)

Detecting Function Inputs and Outputs for Learning-Problem Generation in Intelligent Tutoring Systems

T1:#47

George Zografos, Vasileios Kefalidis and Lefteris Moussiades (F)

LLM-based Course Comprehension Evaluator

T1:#45

Jeong-Min Lee, Jin-Xia Huang, Minsoo Cho, Yoon-Hyung Roh, Oh-Woog Kwon and Yunkeun Lee (S)

Developing Conversational Intelligent Tutoring for Speaking Skills in Second Language Learning

Session 4 : Onsite

Session Chair: TBA

ACCESS TO THE SESSION

T1:#62*

John Kos, Dinesh Ayyappan and Ashok Goel (F)

A Constructivist Framing of Wheel Spinning: Identifying Unproductive Behaviors with Sequence Analysis

T1:#38*

Hyunhee Choi, Hayun Lee and Minjeong Lee (F)

Enhancement of Knowledge Concept Maps Using Deductive Reasoning with Educational Data

T1:#41*

Alexander Pögel, Katja Ihsberner, Norbert Pengel, Milos Kravicik, Martin Grützmüller and Wolfram Hardt (F)

Individualised Mathematical Task Recommendations through Intended Learning

T1:#50*

Sandeep Kakar, Rhea B, Ida Camacho, Christopher Griswold, Alex Houk, Chris Leung, Mustafa Tekman, Patrick Westervelt, Qiaosi Wang and Ashok Goel (F)

SAMI: An AI Actor for Fostering Social Interactions in Online Classrooms

T1:#56*

Irene-Angelica Chounta, Bibeg Limbu and Lisa van der Heyden (F)

Exploring the Methodological Contexts and Constraints of Research in Artificial Intelligence in Education

T1:#78*

Haiying Li, Fanshuo Cheng, Grace Wang, Zhiqiang Cai and Art Graesser (F)

Impact of Conversational Agent Language and Text Structure on Student Language

17.30 – 18.00

COFFEE BREAK

18.00 – 20.00

PANEL DISCUSSION ON "POTENTIAL WAYS OF CREATIVE USE OF GEN AI (E.G., CHAT-GPT) IN COMPUTER SCIENCE DEPARTMENTS" (Amphitheatre of the War Museum)

20.00 – 21.00

RECEPTION (WAR MUSEUM GARDEN)

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WEDNESDAY,
JUNE 12

10.00 – 11.00

TUTORIAL TALK

Panagiotis Fotaris (University of Brighton, UK)

11.00 – 11.30

COFFEE BREAK

11.30 – 13.30

SESSIONS 3 & 4: TRACK 1 - INTELLIGENT TUTORING SYSTEMS

Session 3: Online

Session Chair: TBA

ACCESS TO THE SESSION

T1:#49

Aidan Murphy, Mahsa Mahdinejad, Joe Kenny, Saeed Ahmad Syed and Anthony Ventresque (S)

Optimising a Peer based Learning Environment

T1:#9

Hongxin Yan, Fuhua Lin and Kinshuk Kinshuk (S)

An AI-Learner Shared Control Model Design for Adaptive Practicing

T1:#13

Haya Shamir, Mikayla Tom, David Pocklington, Erik Yoder and Alexander Houchins (S)

Early Math Skill as a Predictor for Foundational Literacy

T1:#22

Sanrda Katz (S)

Distributed Feedback in a Tool that Supports Peer-directed Simulation-based Training

T1:#23

Ansgar Fehnker and Luke Glover (S)

Keeping Humans in the Loop: LLM supported Oral Examinations

T1:#25

Le Minh Duc Nguyen, Fuhua Lin and Maiga Chang (S)

Generating Learning Sequences Using Contextual Bandit Algorithms

T1:#42

Stavros A. Nikou, Arjun Guliya, Suraj Van Verma and Maiga Chang (S)

A Generative Artificial Intelligence empowered chatbot: System usability and student teachers' experience

T1:#43

Deok Yeop Kim and Woo Jin Lee (S)

Predicting Rough Error Causes in Novice Programmers using Cognitive Level

Session 4 : Onsite

Session Chair: TBA

ACCESS TO THE SESSION

T1:#86*

Andrea Sterbini and Marco Temperini (F)

Automated Analysis of Algorithm Descriptions Quality, through Large Language Models

T1:#16*

Henri Jamet, Yash Raj Shrestha and Michalis Vlachos (S)

Difficulty Estimation and Simplification of French Text Using Large Language Models

T1:#63*

Mohamed Lamgarraj, Céline Joiron, Aymeric Parant and Gilles Dequen (S)

Exploring Item Difficulty Prediction: Data Driven Approach for Item Difficulty Estimation

T1:#14*

April Clarke and Antonija Mitrović (S)

Explaining Problem Recommendations in an Intelligent Tutoring System

T1:#84*

Paraskevas Lagakis and Stavros Demetriadis (S)

EvaAI: A Multi-Agent Framework Leveraging Large Language Models for Enhanced Automated Grading

T1:#51*

Rhea Basappa, Mustafa Tekman, Hong Lu, Benjamin Faught, Sandeep Kakar and Ashok Goel (S)

Social AI Agents Too Need to Explain Themselves

13.30 – 14.30

LUNCH

14.30 – 16.00

SESSIONS 5 & 6: TRACK 3 - HUMAN INTERACTION, GAMES AND VIRTUAL REALITY

Session 5: Online

Session Chair: TBA

ACCESS TO THE SESSION

T3:#69

Amin Bonyad Khalaj, Hamdi Ben Abdessalem and Claude Frasson (F)

Assessing Cognitive Workload of Aircraft Pilots through Face Temperature

T3:#70

Katerina Christhilf, Rod D. Roscoe and Danielle S. McNamara (F)

Profiles of Performance: Game-Based Assessment of Reading Comprehension Skill

T3:#4

Karima Boussaha, Abdelhafid Rahab, Khelifa Khelifi Touhami and Charef Eddine Abdelaziz Tayeb Boudraa (S)

Adoption of digital games as pedagogical aids for teachers and pupils in primary schools to overcome learning problems in arithmetic

T3:#4

Amin Bonyad Khalaj, Hamdi Ben Abdessalem and Claude Frasson (S)

From Novice to Expert: Unraveling the Impact of Experience on Cognitive Load and Physiological Responses in Aviation Pilots

Session 6 : Onsite

Session Chair: TBA

ACCESS TO THE SESSION

T3:#82*

Christina Tikva, Maria Mousiou and Efthimios Tambouris (S)

Educational games for Computational Thinking: Evaluation of the Scaffolded aMazeD game

T3:#36*

Dharamjit Parmar, M. Ali Akber Dewan, Dunwei Wen and Fuhua Lin (F)

Cognitive Engagement Detection of Online Learners Using GloVe Embedding and Hybrid LSTM

T3:#85*

Ziqi Pan and Alexandra Cristea (F)

Towards Neuro-Enhanced Education: A Systematic Review of BCI-Assisted Development for Non-academic Skills and Abilities

T3:#39*

Mariana-Madalina Nastase and Elvira Popescu (S)

Kahoot! as a Tool to Maintain Students' Attention and Increase Retention Rates: An Experience Report with Computer Science Students

16.00 – 16.30

COFFEE BREAK

16.30 – 18.15

SESSIONS 7 & 8: TRACK 4 - NEURAL NETWORKS AND DATA MINING

Session 7

Session Chair:

ACCESS TO THE SESSION

T4:#35

Unggi Lee, Yonghyun Park, Yujin Kim, Seoungyun Choi and Hyeoncheol Kim (F)

MonaCoBERT: Monotonic Attention based ConvBERT for Knowledge Tracing

T4:#40

Massimo Pietracupa, Hamdi Ben Abdessalem and Claude Frasson (F)

Detection of Pre-Error States in Aircraft Pilots Through Machine Learning

T4:#81

Matthaios Zografos and Stefanos Ougiaroglou (F)

Simplifying Decision Tree Classification through the AutoDTrees Web Application and Service

Session 8

Session Chair:

ACCESS TO THE SESSION

T4:#74*

Andres Felipe Benitez Amaya, Ruben Manrique and Harold Castro Barrera (F)

Analysis of machine learning models for academic performance prediction

T4:#57*

Amine Boulahmel, Fahima Djelil, Jean-Marie Gilliot, Gregory Smits and Philippe Leray (F)

Mining Discriminative Sequential Patterns of Self-Regulated Learners

T4:#6*

Zhaoxing Li, Jujie Yang, Jindi Wang, Lei Shi, Jiayi Feng and Sebastian Stein (S)

LBKT: A LSTM BERT-based Knowledge Tracing Model for Long-Sequence Data

T4:#79*

Therese Nuelle Roca and Jasmine Malinao (S)

Well-handledness in Robustness Diagram with Loop and Time Controls

T4:#34

Irina-Gabriela Nedelcu, Veronica Opranescu, Beatrice Nicoleta Chiriac and Anca Daniela Ionita (S)

Educational Support for Automated Classification of UML Diagrams using Machine Learning

T4:#71*

John Albert Castillo and Jasmine Malinao (S)

Model Decomposition of Robustness Diagram with Loop and Time Controls to Petri Net with Considerations on Resets

20.30

GALA DINNER

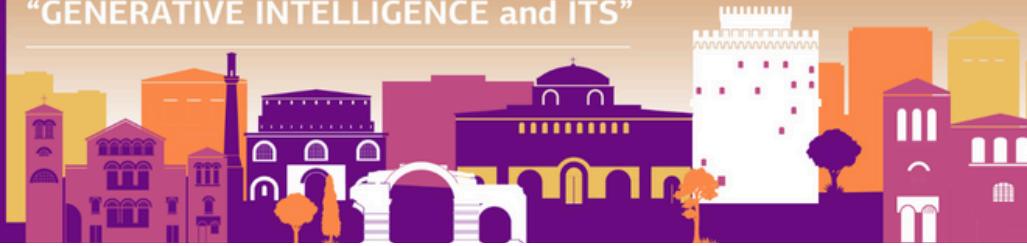
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THURSDAY,
JUNE 13

10.00 – 11.00

KEYNOTE SPEECH

Gianna Martinengo (CEO of Didael Knowledge Technologies Services and President of Women & Tech ETS, Italy)

11.00 – 11.30

COFFEE BREAK

11.30 – 13.30

SESSION 9 & 10: TRACK 7 - GENERATIVE INTELLIGENCE FOR APPLIED NATURAL LANGUAGE PROCESSING / MIXED TRACK

Session 9: Mixed

Session Chair: TBA

ACCESS TO THE SESSION

T7:#15

Christos Papakostas, Christos Troussas, Akrivi Krouska and Cleo Sgouropoulou (F)

A Rule-based Chatbot offering Personalized Guidance in Computer Programming Education

T7:#27

Arwa Al Saqaabi, Craig Stewart, Eleni C. Akrida and Alexandra.I Cristea (F)

Paraphrase Generation and Identification at Paragraph-Level

T7:#64

Andreas Gavros, Stavros Demetriadis and Stergios Tegos (F)

Deploying ChatGPT for automated tagging of Greek dialogue data of university students

T0:#66*

Stefano D'Urso and Filippo Sciarrone (S)

AI4LA: an Intelligent Chatbot for Supporting Dyslexic Students, Based on Generative AI

T0:#3

Marian Ileana (S)

Elevating Medical Efficiency and Personalized Care through the Integration of Artificial Intelligence and Distributed Web Systems

Session 10: Mixed

Session Chair: TBA

ACCESS TO THE SESSION

T6:#55*

Kyungryul Back, Xinyu Piao and Jong-Kook Kim (F)

Enhancing Reinforcement Learning Finetuned Text-to-Image Generative Model using Reward Ensemble

T0:#7

Michael Pin-Chuan Lin and Daniel Chang (F)

Exploring Inclusivity in AI Education: Perceptions and Pathways for Diverse Learners

T0:#19

Ioannis Kavouras, Ioannis Rallis, Emmanuel Sardis, Eftychios Protopapadakis, Anastasios Doulamis and Nikolaos Doulamis (S)

Multi-scale Intervention Planning based on Generative Design

T0:#61

Dimitrios Tzimas and Stavros Demetriadis (S)

Students' Perceptions of Adopting Learning Analytics

T7:#28*

Gaganpreet Jhaji, Xiaokun Zhang, Jerry Ryan Gustafson, Fuhua Lin and Michael Pin-Chuan Lin (S)

Educational Knowledge Graph Creation and Augmentation via LLMs

T7:#54*

Sung-Kwon Choi, Jin-Xia Huang and Oh-Woog Kwon (S)

Semi-Automatic Construction of Bidirectional Dialogue Dataset for Dialogue-based Reading Comprehension Tutoring System using Generative AI

13.30 – 14.00

CLOSING SESSION AND BEST PAPER AWARDS

** ONLINE SESSIONS will be held in the War Museum's Amphitheatre

** ONSITE SESSIONS will be held in the War Museum's Conference Room

** We have MIXED SESSIONS

