

T1: Augmented Intelligence in Tutoring systems

The goal of this track is to show how new techniques inspired by artificial intelligence and new methods in education can improve learning, teaching, and augment the capacity of knowledge acquisition.

Augmented learning strategies Distance education Learning analytics for tutoring systems Deep learning and machine learning for tutoring systems Online and distance learning Augmented learner model Emotion recognition Human machine interaction Case-based Reasoning Cognitive Modeling Open learning Authoring systems Cultural learning Adaptive learning



T2: Augmented Intelligence in Healthcare Informatics.

The goal of this track is to show the progress of AI tools for increasing the propagation of healthcare techniques and their efficiency. Informatics provide means to improve the prediction, analysis, treatment of disease and a control for the patients over their own care.

AI and telemedicine Medical Image processing Virtual systems for healthcare Learning Analytics in Medicine nonpharmacological **Progress** of ΑΙ **Alzheimer** for treatments Predictive modeling of healthcare **Intelligent Tutoring Systems in Medicine** Machine learning and deep learning in healthcare AI in medical education Al in public health Home management of healthcare Neurofeedback techniques Games for health care Virtual reality (VR) Augmented reality (AR) • Healthcare • VR/ AR and AI for medical applications. • VR/AR for e-learning applications. • Human-computer interaction. • Ambient intelligence (AI) applications • Cognitive assistants, including; e-learning, e-healthcare, smart • m-Health, cities, and assisting medical diagnosis,

Artificial intelligence

- Machine and deep learning,
- Ambient assisted living (AAL),
- Biomedical signals,
- Medical image processing,
- Mobility and behavioral analysis, and
- · Physiological signal monitoring and analysis



T3: Augmented Intelligence in Games, Serious Games and Virtual Reality

The goal of this track is to show the progress of interactive games using augmented intelligent techniques. Intelligent games can adapt to the characteristics of the player and can be used to enhance learning, skills, memory, cognitive capacities and strategic decisions. They can be used in various applications (education, healthcare, group management, decision support systems, industry control). Multimedia allows to increase the receptivity sensors and reactions.

Game design **Intelligent immersive games Multi-agent systems Educational games Social games Augmented Simulations Theory of games Reinforcement learning in games** Virtual and augmented reality **Simulation training Emotions recognition Neurofeedback games** Augmented scenario design Human interaction with games Multimedia technologies in games **Fuzzy systems in games** Artificial intelligence in games **Games content generation**



T4 : Neural Networks and Data Mining

Supervised Machine learning

Genetic Algorithms Markovian regulation Smart sensor networks Determinate regulation Games and strategies Fuzzy systems Web information processing Applications of data mining in social sciences Data-driven reasoning Deep learning and statistical methods for data mining Big data mining Algorithms for data mining Ethical data analytics Data mining for recommendation Uncertain reasoning



T5 : Augmented Intelligence and Metaverse

Technology and creativity around Metaverse Gaming and interactivity Mixed reality and virtual world Social and digital identity Extended reality Digital art Social communication Applications of Metaverse in Health Global Metaverse Knowledge increase with Metaverse



T6: Security, Privacy and Ethics in Augmented Intelligence

Commercial security Data privacy and security Web security **Applied cryptography** Authentication, identity management and biometrics **Electronic payments Culture of ethics** Business and human rights Diversity and inclusion in teaching and learning **Environmental ethics Machine learning and security Cloud computing and data outsourcing security Mobile payments** Security in games Security of peer-to-peer networks **Security metrics Sustainability** Language-based security Security and privacy for the Internet of Things Socio-technical security



T7: Applied Natural Language Processing

Language modeling Domain ontologies Computational linguistics Cognitive semantics Text mining Translation Question answering Dialog systems Information retrieval Speech recognition and synthesis Discourse Machine translation Lexical semantics Linguistic resources



T8 : Augmented Intelligence for Autonomous Robots and Learning

Augmented intelligence with robots include a variety of new criteria which provide more human characteristics to robots. Such elements concern emotions, affects, mood, face expressions which give a more realistic interaction with humans. They transform robots in useful human-like companions. Topics include, but are not limited to:

Emotional robots Voice recognition Intelligent agents Autonomous robots Planning and Goal reasoning Entertainments robotics Intelligent systems and robotics Applications of autonomous intelligent robots Sensors and vision systems for robots Augmented exploration in hazardous situations Extraction of environments maps Robots in medicine Teaching robots