Knowledge Engineering Paradigms in Smart Digital Learning
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The convergence of artificial intelligence (AI) and web science is enabling the creation of a new generation of web-based smart systems for many educational and learning tasks. Knowledge engineering paradigms (KEPs) refer to the development of intelligent systems whereby reasoning and knowledge play a pivotal role. There are many approaches to reasoning including automated, spatial, temporal, commonsense, fuzzy, geometric, non-monotonic reasoning, model-based reasoning, probabilistic, causal reasoning, qualitative reasoning, and case-based reasoning. There are also many techniques for representing both static and heuristic knowledge, including semantic networks, scripts, If-then rules, ontology and cases. KEPs are receiving increasing attention within the fields of education and learning as researchers have been applying knowledge engineering (KE) techniques and methodologies to develop smart tutoring and learning systems.

The workshop will include the following topics:

- An introduction to AI
  - Interdisciplinary Science of Artificial Intelligence
  - AI Areas of Research
  - Cognitive Informatics and Computing
- An introduction to Knowledge Engineering and Reasoning methodologies
- Applying an Intelligent Data Mining and Knowledge Discovery Approach
- Examples of how artificial intelligence (AI) can be applied in education
  - Intelligent Tutoring Systems (ITS)
  - Intelligent e-learning Systems
  - Intelligent Technologies for e-Learning
  - Smart Machines in Education/Robotic-based Education

The workshop will be suitable for Software developers, Knowledge Engineers, Educators, Informatics researchers, PhD and Msc students.

Abdel-Badeeh M. Salem has been a full Professor of Computer Science at Ain Shams University, Egypt since 1989. His research interests include biomedical informatics, big data analytics, intelligent education and learning, information mining, knowledge engineering and Biometrics. He has published many papers in scholarly journals and has also been involved in many international conferences and workshops where he has been a keynote and plenary speaker, member of programme committees and workshop/session organizer. In addition he has been a member of many International societies and associations and he is a member of the Editorial Board of a number of international and national journals.

The workshop will be held the day before ECEL 2020. The cost of attending the workshop is £35 for participants registered for the European Conference on e-Learning and £70 for anyone wishing to participate who is not attending the conference.

To register go to: https://www.academic-conferences.org/conferences/eCEL/eCEL-registration/ and for more information contact annette@academic-conferences.org

PLEASE NOTE PARTICIPANTS WILL NEED TO BRING A LAPTOP OR TABLET TO USE AT THIS WORKSHOP