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The Internet and Higher Education

Special Issue on

Web Mining and Higher Education

Guest Editor

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The purpose of this special issue is to promote the understanding of Web Mining as a novel and useful research methodology for investigating aspects related to the various usages of the internet in higher education. Web Mining (or Web Data Mining) is the application of data mining tools and techniques to discover non-trivial, potentially useful and ultimately understandable patterns or structures from data drawn from the Web. Traditionally, Web mining consists of three types: a) *Usage mining*, which analyzes users' traces hidden in log files, for learning about different aspects of activity in Web pages or application; b) *Content mining*, which analyzes different types of content from the Web – mostly text, but also images, audio or video – for discovering useful information on Web pages and sites; and c) *Structure mining*, which examines the connectivity of Web pages, in order, for example, to find similarities and/or relationships between Web pages.

Web mining research is currently emerging in many aspects of e-learning, aiming at improving online learning and teaching processes and making them more transparent and effective. Researchers using Web mining tools and techniques are challenged to learn more about the online students, reshape online courses and educational websites and create tools for institutional decision making regarding e-learning. This methodology renders different points of views for instructors, researchers, curriculum developers, learning environment designers, and university policy makers. This research conducted in Higher education institutions, might improve the implementation of Web-supported Learning Management Systems, fully online courses, and innovative pedagogical practices using the Internet.

We encourage submissions of empirical and conceptual articles which address (but not limited to) the following topics, regarding Web Mining applications in higher education:

- Assessing online students' behavior throughout the learning process
- Collaborative learning investigation using usage mining and/or content mining
- Cost-effectiveness of Web-supported learning
- Measuring cognitive, meta-cognitive, and affective aspects of learning
- Improving Web-based learning environments
- Developing and integrating Web mining tools into existing learning management shells, for improving instruction
- Evaluating current Web mining methodologies for education research
- Investigating structure of Web-based learning environments
- Using Web mining for customizing and/or personalizing learning processes
- Examining the effectiveness of Web-based learning environments

Rafi Nachmias short biographical statement:

Rafi Nachmias is an associate Professor in Tel-Aviv University's School of Education and the vice head of the School of Education for research. For the last decade he is the head of the Science and Technology Education Center (SATEC) and the Virtual TAU initiative in Tel-Aviv University coping with the integration of information and communication technologies in the academic instruction of TAU. Currently, one of his major research interests is Educational Web Mining (please see <http://edumining.info/> for more details). Prof. Nachmias wrote and edited 5 books on ICT in Education and published over hundred articles and chapters in refereed journals and books on: Internet and Higher Education, Web-Mining of online learning, Science Education and Technology, Web-based Learning and Innovative Pedagogical school Practices using ICT.

Suggested timeline:

- Submission deadline: January 10, 2010
- Authors' notification: May, 2010
- Accepted/final papers due to publisher: June 30, 2010
- Special Issue publication: January 2011