Nastaran Fatemi
HES-SO Professor

16.04.1973

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Nastaran Fatemi is Professor at HEIG-VD, University of Applied Sciences of Western Switzerland in Yverdon since 2003. She holds a PhD in Computer Science from EPFL (2003), and a Master in Computer Science from Joseph Fourier University of Grenoble-France (1998). She has conducted several research projects and industry contracts in the field of Information Retrieval and Data Mining. She is a member of the Intelligent Data Analysis (IDA) group at the ICT Institute of HEIG-VD, whose main mission is the development of applied research projects on massive data analysis using machine learning and distributed computing. She teaches a number of courses in the Bachelor and the Master program of the HES-SO, such as, Compiler Construction, Databases and Information Systems, Information Retrieval Techniques, SCALA Programming language, Web Mining, and Big Data Analytics. In the past, she participated actively as a member of MPEG-7 standardization committee. She was involved in several program committees, such as IEEE CBMI (2010-2011) and IC3K KDIR (2011-2016).

Positions

Depuis 01.03.2003	Professor, University of Applied Sciences of Western Switzerland in Yverdon-les-Bains (HEIG-VD), Suisse
01.03.2003-31.10.2004	Scientific collaborator , Ecole Polytechnique Fédérale de Lausanne (EPFL), Suisse
15.03.2002 -30.07.2002	Lecturer, Ecole d'Ingénieurs et d' Architectures de Fribourg (EIA-FR), Suisse
15.03.1999-01.03.2003	Research assistant, Laboratoire d'Informatique Théorique, Ecole Polytechnique Fédérale de Lausanne (EPFL), Suisse

Recent Projects

2015-2016	CrowdStreams (HES-SO grant): Real-time analysis and monitoring of mobility in the proximity of big events using Apache Spark and ML-LIB machine-learning library.
2014-2015	Livre d'Artist (Contract): Extraction and analysis of annotations from the complete bibliographic collection possessed by Bibliothèque National Suisse (BNS) in order to characterize artistic works.

2014-2015	RT-DLP (Contract for Crossing-Tech SA): Real-Time Content-based Data Loss Prevention (DLP) Technology Feasibility Study. Comparison of Spark, Storm, Hadoop and Hbase for the implementation of a scalable DLP tool.
2013-2014	SR-DLP (Hasler Foundation grant): Efficient and Scalable Near Duplicate Detection for Content-based Data Leakage Detection, comparison of four MapReduce algorithms.
2012-2013	EF-NDD (RCSO grant): Efficient Near Duplicate Detection. Improving the efficiency of Near Duplicate Detection algorithms for security audit.
2012-2013	ClusterSITG (Contract for l'état de Génève): Automatic clustering and semantic linking of the geographical metadata of the terms used by "Service des Systèmes d'Information et de Géomatique (SSIG) de l'état de Genève".
2011-2013	Thesauro (RCSO grant): Thesaurus Automatic Reorganization. Association rules mining on the RTS (Radio Télévision Swiss Romande) archive to restructure their thesaurus. The result prototype is currently used at the RTS.
2011-2012	Health Social Media Monitoring: A tweet classification prototype for SwissRe Life & Health R&D to analyse patients, diseases and medications.
2010-2011	NDD (Contract for PriceWaterhouseCoopers): Design and implementation of Near Duplicate Detection algorithms with high precision. The result was an audit tool tested and exclusively used for one year by PWC.
2009-2011	Mobiwalk (RCSO grant): A generic platform to provide multimedia-based services to the users on the move. A complete set of mobile applications on iOS and Android were developed for the RTS notrehistoire.ch.

Publications

1. N. Fatemi, F. Borran, "Efficient and Scalable Near Duplicate Detection for Content-based Data-leakage Prevention using MapReduce", Hasler Foundation Project Report, November 2014.

2. N. Fatemi, D. Grunenwald, F. Borran, Q. Rossé, A. Mihet, N. Zannini, "Efficient Near Duplicate Detection", RCSO-TIC project final report, University of Applied Sciences of Western Switzerland, Mai 2014.

3. N. Fatemi, D. Rizzotti, L. Raileanu, F. Borran, " Thesauro: Thesaurus Automatic Reorganization", RCSO-TIC project final report, University of Applied Sciences of Western Switzerland, March 2013.

4. O. Ertz, N. Fatemi, L. Raileanu, "Mobiwalk : A generic platform to provide multimedia-based services to the users on the move", RCSO-TIC project final report, University of Applied Sciences of Western Switzerland, June 2012.

5. N. Fatemi, F. Poulin, L. Raileanu, A. Smeaton, “Using association rule mining to enrich semantic concepts for video retrieval”, International Conference on Knowledge Discovery and Information Retrieval: KDIR’09, October 2009.

6. F. Rahman, J. I. A. Siddiqi, N. Bindal, L. Raileanu, N. Fatemi “MOSAICA: A Knowledge Portal for Cultural Heritages”, IKE 2008: 423-427.

7. N. Fatemi, L.Raileanu, F. Poulin, “LSVAM: Part II“, Internal Report IICT- COM/2007/3, University of Applied Sciences of Western Switzerland, October 2007.

8. N. Fatemi, “MPEG-7 in practice: Analysis of a Television News Retrieval Application”, Jounal of the American Society for Information Science and Technology, Volume 58, Issue 9, July 2007.

9. N. Fatemi, L.Raileanu, F. Poulin, “LSVAM: Large Scale Video Annotation Mining”, Internal Report IICT-COM/2007/2, University of Applied Sciences of Western Switzerland, July 2007.

10. L. Raileanu, N. Fatemi, F. Poulin, “Memoria-Mea Architecture White Paper“, Internal Report, IICT-COM/2007/1, University of Applied Sciences of Western Switzerland, July 2007.

11. N. Fatemi, “Audiovisual querying and browsing based on the Semantic Views Model”, Proceedings of SPIE, vol #6015, Multimedia Systems and Applications VIII, Boston, MA, October 2005.

12. N. Fatemi, M. Lalmas and T. Roelleke, “How to retrieve multimedia documents described by MPEG-7”, to appear in a book on Semantic Web and Information Retrieval, eds., C.J. van Rijsbergen, I. Ounis, J. Jose and Y. Ding, 2004.

13. N. Fatemi, “A Semantic Views Model for audiovisual indexing and retrieval”, PhD thesis, Swiss Federal Institute of Technology of Lausanne, Switzerland, March 2003.

14. N. Fatemi, O. Abou Khaled, and G. Coray, “An XQuery adaptation for MPEG-7 documents retrieval”, XML 2003, Philadelphia, US, December 2003.

15. R. Schroeter, N. Fatemi, and O. Abou Khaled, “User oriented query language for MPEG-7 and MPEG-7 API”, Technical report, N° IC/2003/54, Swiss Federal Institute of Technology of Lausanne, Lausanne, 2002.

16. N. Fatemi and O. Aboukhaled, “COALA: Content Oriented Audiovisual Library Access”, 8th International Conference on Multimedia Modeling (MMM’2001), Amsterdam, Netherlands, November, 2001.

17. N. Fatemi and O. Abou Khaled, "Indexing and Retrieval of TV News Programs Based on MPEG-7", in Proceedings of the IEEE International Conference on Consumer Electronics (ICCE'2001), Los Angles, CA, June 2001.

18. A. Ballim, N. Fatemi, H. Ghorbel, and V. Pallotta, "A knowledge-based approach to semi-automatic annotation of multimedia documents via user adaption", in Proceedings of the First EAGLES/ISLE Workshop on Meta-Descriptions and Annotation Schemas for Multimodal/Multimedia Language Resources (LREC 2000 Pre-Conference Workshop), Athens, Greece, May 2000.

19. N. Fatemi, J. A. DeBlasio, and G. Amaudruz, "Adding closed-caption and subtitle to VideoText DS", MPEG-7 contribution: m7092, Singapore, Mars 2001.

20. N. Fatemi, J. A. DeBlasio, and G. Amaudruz, "Some Remarks and Propositions to the MDS CD Resulting from the Study of Archive Applications", MPEG-7 contribution: m6696, Pisa, Italy, January 2001.

21. N. Fatemi and P. Mulhem, "A Conceptual Graph Approach for Video Data Representation and Retrieval ", Lecture Notes in Computer Science #1642 , Proceedings of the third Symposium on Intelligent Data Analysis (IDA'99), Amsterdam, The Netherlands, August 1999.

22. N. Fatemi and P. Mulhem, "A two-time Model for Video Content Representation and Retrieval", in Proceedings of the 21st Colloquium on IR Research (IRSG'99), Glasgow, Scotland, May 1999.

23. P. Mulhem and N. Fatemi, "A Description Scheme for Videos based on the Conceptual Graphs Formalism", Proposition P633 for MPEG7 Description Scheme, Lancaster, UK, March 1999.

24. N. Fatemi, "La modélisation temporelle d'un système de recherche d'information vidéo", Rapport MRIM (CLIPS/IMAG), RAP98-002, Juin 1998.