

Dr. Ing. Fabrizio Falchi

Relazione sintetica 2013

Nel corso del 2013 Fabrizio Falchi si è occupato dei seguenti temi di ricerca: multimedia information retrieval, computer vision, content based image search, classification and recognition, multimedia digital preservation, similarity search e digital libraries.

Nelle sezioni seguenti viene riassunta l'attività svolta.

1 Elenco pubblicazioni

1.1 Revised select papers

1. **On kNN Classification and Local Feature based Similarity Functions**

G. Amato, F. Falchi

Third International Conference, ICAART 2011, Rome, Italy, January, 28-30, 2011. Revised Selected Papers Communications in Computer and Information Science, Springer-Verlag Berlin Heidelberg (New York, NY, USA), 2013, Volume 271, pages 224-239

DOI 10.1007/978-3-642-29966-7_15

Print ISBN 978-3-642-29965-0, Online ISBN 978-3-642-29966-7

Series ISSN 1865-0929

1.2 Capitoli in atti di convegno

2. **Pivot Selection Strategies for Permutation-Based Similarity Search**

Giuseppe Amato, Andrea Esuli, Fabrizio Falchi

6th International Conference, SISAP 2013, A Coruña, Spain, October 2-4, 2013, Proceedings Lecture Notes in Computer Science, vol. 8199

Springer-Verlag Berlin Heidelberg (New York, NY, USA), 2013, pages 91-102

ISSN 0302-9743, e-ISSN 1611-3349

ISBN 978-3-642-41061-1, e-ISBN 978-3-642-41062-8

DOI 10.1007/978-3-642-41062-8

3. **Large Scale Image Retrieval Using Vector of Locally Aggregated Descriptors**

Giuseppe Amato, Paolo Bolettieri, Fabrizio Falchi, Claudio Gennaro

6th International Conference, SISAP 2013, A Coruña, Spain, October 2-4, 2013, Proceedings Lecture Notes in Computer Science, vol. 8199

Springer-Verlag Berlin Heidelberg (New York, NY, USA), 2013, pages 245-256

ISSN 0302-9743, e-ISSN 1611-3349

ISBN 978-3-642-41061-1, e-ISBN 978-3-642-41062-8

DOI 10.1007/978-3-642-41062-8

4. **On Reducing the Number of Visual Words in the Bag-of-Features Representation**

Giuseppe Amato, Fabrizio Falchi, Claudio Gennaro

Proceedings of the International Conference on Computer Vision Theory and Applications Barcellona, Spain, 21-24 February, 2013, vol. 1

SCITEPRESS – Science and Technology Publications, Portugal, 2013, pages 468-471

ISBN: 978-989-8565-47-1

5. **Using Visual Attention in a CBIR System - Experimental Results on Landmark and Object Recognition Tasks**

Franco Alberto Cardillo, Giuseppe Amato, Fabrizio Falchi

Proceedings of the International Conference on Computer Vision Theory and Applications
 Barcellona, Spain, 21-24 February, 2013, vol. 1
 SCITEPRESS – Science and Technology Publications, Portugal, 2013, short paper, pages 657-662
 ISBN: 978-989-8565-47-1

6. Automatic Aerial Image Alignment for GeoMemories

Giuseppe Amato, Fabrizio Falchi, Fausto Rabitti, Andrea Marchetti, Maurizio Tesconi
 MMEDIA 2013, The Fifth International Conferences on Advances in Multimedia
 Venice, Italy, April 21-26, 2013
 IARIA, 2013, pages 62-66
 ISSN: 2308-4448, ISBN: 978-1-61208-265-3
Best Paper Award

7. Visual Features Selection

Giuseppe Amato, Fabrizio Falchi, Claudio Gennaro
 In Proceedings 4th Italian Information Retrieval Workshop (IIR 2013), Pisa, Italy, January 16-17, 2013,
 pages 41-44
 ISSN 1613-0073

8. Experimenting a Visual Attention Model in the Context of CBIR Systems

Franco Alberto Cardillo, Giuseppe Amato, Fabrizio Falchi
 In Proceedings 4th Italian Information Retrieval Workshop (IIR 2013), Pisa, Italy, January 16-17, 2013,
 pages 45-56
 ISSN 1613-0073

1.3 Standards

9. WD 0.2 of ISO/IEC 23000-15 Multimedia Preservation Application Format

Werner Bailer, Walter Allasia, Francesco Gallo, Carlo Meghini, Fabrizio Falchi Laurent Boch, Roberto
 Borgotallo, Alberto Messina, Noboru Harada, Wo Chang, Jean-Pierre Evain, Ken Thibodeau, Sergiu Gordea
 ISO/IEC JTC 1/SC29/WG11/N13681

1.4 Altro

10. Large Scale Image Retrieval Using Vectors of Locally Aggregated Descriptors

Giuseppe Amato, Paolo Bolettieri, Fabrizio Falchi, Claudio Gennaro
 ERCIM News, 95, October 2013 – Special Theme: Image Understanding
 ERCIM EEIG (Sophia Antipolis Cedex, France), 2013: pages 36-37.
 ISSN: 0926-4981

1.5 Project Deliverables

11. CoP Progress Report Year 1

Linda Ligios, Peter Holm Lindgaard, Daniel Teruggi, Erwin Verbruggen, Ajay Chakravarthy, Pip Laurenson,
 John McNeill, Thomas Christensen, Luca Bagnoli, Fabrizio Falchi, Marius Snyders
 Progetto: European Technology for Digital Audiovisual Media Preservation (Presto4U), funded by the
 European Community in the 7th Framework Programme, Grant Agreement n. 600845.
 Documento D2.4, Dicembre 2013

12. Communities of Practice Establishment

Marius Snyders, Peter Holm Lindgaard, Marco Rendina, Daniel Teruggi, Pip Laurenson, Mirella Bulsink,
 Thomas Christensen, Pasquale Savino, Erwin Verbruggen, Fabrizio Falchi
 Progetto: European Technology for Digital Audiovisual Media Preservation (Presto4U), funded by the
 European Community in the 7th Framework Programme, Grant Agreement n. 600845.
 Documento D2.2, Ottobre 2013

2 Attività e incarichi in progetti di ricerca

2.1 Presto4U: European Technology for Digital Audiovisual Preservation

Ha partecipato al progetto europeo “European Technology for Digital Audiovisual Media Preservation (Presto4U)”.

Dettagli del progetto:

- Funded under: 7th FWP (Seventh Framework Programme)
- Area: Digital Preservation (ICT-2011.4.3)
- Project reference: 600845
- Total cost: 2.21 million euro
- EU contribution: 1.99 million euro
- Execution: From 2013-01-01 to 2014-12-31
- Duration: 24 months
- Contract type: Coordination and support actions
- Sito del progetto: <https://www.prestocentre.org/4u>

Nell’ambito del progetto è **Leader della Research and Scientific Collections Community of Practice**.

Breve descrizione del progetto:

Presto4U is a two-year project supported by a core group of 14 PrestoCentre member organisations. The aim of the project is to identify useful results of research into digital audiovisual preservation and to raise awareness and improve the adoption of these both by technology and service providers as well as media owners. The project will deliver new tools and services to connect the different constituencies involved in AV media preservation: expert users, who understand the problems and require technological solutions; researchers who can develop the fundamental knowledge; and technology providers who can commercialize research results as sustainable tools and services.

The project helps PrestoCentre to put a special emphasis on meeting the needs of smaller collections, private sector media owners and new stakeholders. The project will establish nine communities of practice in AV digital preservation, each based on a shared concern, a shared set of problems and a common pursuit of technological solutions related to the particular custodial practices and preservation challenges in a principal sub-sector of AV media. These communities of practice, collectively and individually, will function as a crucial reference point and exchange environment, pooling the available expertise between the academic research, media, culture and industry sectors.

Nell’ambito di questo progetto è stato editor e co-autore dei seguenti deliverables:

- D2.4 CoP Progress Report Year 1

2.2 EAGLE: Europeana network of Ancient Greek and Latin Epigraphy

Ha partecipato al progetto europeo “Europeana network of Ancient Greek and Latin Epigraphy” (EAGLE).

Dettagli del progetto:

- Area: CIP-ICT-PSP.2012.2.1 - Europeana and creativity
- Total cost: €3.75m
- EU contribution: €3.00m
- Project reference: 325122
- Execution: From 01/04/2013 to 31/03/2016
- Contract type: The Information and Communication Technologies Policy Support Programme BPN Best Practice Network
- Sito del progetto: <http://www.eagle-network.eu/>

Breve descrizione del progetto:

The world-class EAGLE Consortium is composed of nineteen partners from thirteen European countries. Participating institutions range in size from small to large and boast an impressive range of complementary competences and roles.

Fourteen partners are content providers from leading European research centres (mostly universities) with long traditions of excellence and cooperation in the field of digital epigraphy. All content-providing partners play an active role in awareness-raising and the recruiting of new content providers from across Europe. The strategic partnership with Europeana Foundation ensures liaison and create synergies in best practice areas such as content harmonisation, multi-linguality, multi-culturality and semantic interoperability. It will afford to the Consortium the possibility to participate in Europeana's decision-making and dissemination activities.

The Consortium's other key collaboration is the one established by Wikimedia Italia. The EAGLE content that will be made available through the Commons will massively increase the visibility of its resources, and serve as a framework for the crowdsourcing of translations. Project Coordinator is Sapienza University of Rome, Technical Coordinator is Promoter Srl. Editorial Board

2.3 Secure!

Piattaforma intelligente basata su tecnologie crowdsourcing e crowdsensing per la sicurezza e la gestione delle crisi ed emergenze

Ha partecipato al progetto regionale toscano "Secure!".

Dettagli del progetto:

- Regione Toscana
- POR CReO 2007 – 2013
- Linea di Intervento 1.5.a, 1.6
- Bando Unico R&S Anno 2012

Breve descrizione del progetto:

Il progetto Secure! mira a studiare l'applicabilità e le modalità di applicazione di meccanismi, modelli, tecniche, tecnologie e strumenti di crowd-sourcing per la prevenzione (quando possibile), l'anticipazione e la gestione (prima, durante e dopo la crisi) di eventi e situazioni di emergenza relativi alla sicurezza pubblica e alla protezione civile: questo può includere eventi fortuiti e accidentali, infortuni e disastri naturali, climatici, o di qualunque altro genere; oppure identificare comportamenti illeciti e prevenirne l'aggravio del danno attraverso l'organizzazione di forme di prevenzione e di intervento.

I partner partecipanti al progetto Secure! costituiscono una compagine ben affiatata (avendo già collaborato in precedenti iniziative progettuali di ricerca e sviluppo) e che garantisce tutte le competenze richieste per il corretto svolgimento delle attività ed il pieno raggiungimento dell'obiettivo generale suddetto ed i relativi obiettivi operativi in cui lo stesso è decomposto.

3 Editorial boards

3.1 International Journal on Advances in Telecommunications

Membro dell'Editorial Board dell' "International Journal on Advances in Telecommunications" (ISSN: 1942-2601, IARIA), dal Gennaio 2012.

4 Organizzazione di workshop e convegni

4.1 Program Committee member del convegno internazionale MMEDIA 2013

È membro del Program Committee del Third International Conferences on Advances in Multimedia (MMEDIA 2013) svoltosi a Venezia, Italia, dal 21 al 26 aprile 2013.

5 Partecipazione a Congressi e Workshop

5.1 SISAP 2013: 6th International Conference on Similarity Search and Applications

A Coruna, Spain, 2-10 Ottobre 2013

5.2 MMEDIA 2013: 5th International Conferences on Advances in Multimedia

Venezia, Italia, 21-26 Aprile 2013

5.3 LSDS-IR 2013: Large-Scale and Distributed Systems for Information Retrieval

Rome, Italia, 5 Febbraio 2013

5.4 IIR 2013: 4th edition of the Italian Information Retrieval Workshop

Pisa, Italia, 16-17 Gennaio 2013

6 Commissioni

6.1 Doctoral Board

Member of the Doctoral Thesis Defence Committee of Mr. Tomáš Homola at the Faculty of Informatics, Masaryck University (act no. 111/1998 Coll.), 2014

7 Attività di revisione

Ha svolto attività di revisione per le seguenti riviste internazionali:

- Journal on Computing and Cultural Heritage, ACM
- Semantic Web and Information Systems, Information Resources Management Association
- Information Retrieval, Springer
- Multimedia Tools and Applications, Springer)
- Transactions on Knowledge and Data Engineering, IEEE
- International Journal on Advances in Telecommunications, IARIA

Ha svolto attività di revisione per i seguenti congressi nazionali e internazionali

- International Conference on Similarity Search and Applications (SISAP 2013)
- Conference on Design & Architectures for Signal & Image Processing (DASIP 2013)
- 24th International Conference on Database and Expert Systems Applications (DEXA 2013)
- 21st European Signal Processing Conference (EUSIPCO 2013)
- 9th Italian Research Conference on Digital Libraries (IRCDL 2013)
- 5th International Conferences on Advances in Multimedia (MMEDIA 2013)
- 4th International Conference on Ambient Systems, Networks and Technologies (ANT 2013)

8 Partecipazioni a commissioni

1. Membro della Commissione giudicatrice della selezione ISTI 026/2013 – PI a n. 1 assegno per attività da svolgersi presso l'Istituto di Scienza e Tecnologie dell'Informazione "A.Faedo" del CNR
2. Membro della Commissione giudicatrice della selezione ISTI 024/2013 – PI a n. 1 assegno per attività da svolgersi presso l'Istituto di Scienza e Tecnologie dell'Informazione "A.Faedo" del CNR
3. Membro della Commissione giudicatrice della selezione ISTI 018/2013 – PI a n. 1 assegno per attività di ricerca da svolgersi presso l'Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo" del CNR
4. Membro della Commissione giudicatrice della selezione ISTI 045/2012 – PI a n. 1 assegno per attività di ricerca da svolgersi presso l'Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo" del CNR