FUB is a not-for-profit research institution under the supervision of the Italian Ministry of Economic Development. FUB promotes scientific progress and technological innovation by performing and supporting research, innovation and consultancy in telecommunications, information technology, electronics and multimedia services in general. The main activity areas are the following:

**Research**: Wireless and mobile radio systems, QoS and QoE, ICT Security and Privacy, sensor networks and RFID systems, cognitive radio, white space devices, Internet and Web 2.0. Big Data Analytics, Information and data mining, NGN, info-mobility, multimedia content processing, digital TV, critical infrastructures, e-inclusion, ICT for energy.

**Innovation policies**: innovation policies for the TLC industry in partnership with national and international organisations; support to institutional bodies on technical, macro-economical, legal, and regulatory issues.

**Consultancy**: consultancy to the Government, the Parliament, the Regulators, Public Institutions, as well as Regional and Local Administrations in nation-wide technological innovation processes (i.e. transition to digital TV and analogue switch-off, frequency management and planning, mobile system refarming, auction design and implementation for telecommunications resources, Robison’s list national service, broadband deployment policies, broadband access quality assessment, validation of ICT security policies, speaker recognition for forensic applications).

**Consumer protection and cultural heritage**: FUB acts as a neutral entity, acting in the white space devices, Internet and Web 2.0, FUB is a not-for-profit research institution.

FUB has a proven R&D experience in Big Data Analytics, Information Retrieval and Mining from texts, structured data, and semi-structured data (e.g. Web pages, databases, blog, microblog).

FUB has a strong scientific record and is internationally very well recognized in the field of content processing. It has been regularly involved in the organization and management of the main annual conferences (e.g., SIGIR, CIKM, ECIR) and has participated several times in the plenary session of The Text RETrieval Conference, an on-going series of workshops, focused on different information retrieval research areas, sponsored by the National Institute of Standards and Technology (NIST) and the U.S. Department of Defense.

FUB is one of the developers of Terrier, a high performance and scalable open-source search engine, and has implemented several innovative system prototypes for Web and Social Network search.

Current research activities are focused on:

- **Information Retrieval for Big Data**
  (near real-time indexing, distributed Information retrieval, blog and microblog search, crawling, automatic query expansion, non-parametric ranking models, subtopic retrieval), and

- **Big Data Analytics**
  (near real-time sentiment analysis, social web analytics, link analysis, text and data classification, near real-time data analysis over unbounded streams, clustering and meta clustering)

**Information in Big Data (Keywords)**

- Information retrieval, data mining, data analytics, near real-time stream analysis
- Cloud computing, social network analysis, link-analysis, Internet of Things

**Main Topics of Interest in WP 2016-2017**

- Big Data PPP: cross-sectorial and cross-lingual data integration and experimentation - ICT14, IA
- Big Data PPP: Large Scale Pilot projects in sectors best benefitting from data-driven innovation - ICT15, IA
- Big data PPP: research addressing main technology challenges of the data economy - ICT16, RIA
- Big data PPP: Support, Industrial Skills, Benchmarking and evaluation - ICT17, CSA
- Big data PPP: privacy-preserving big data technologies - ICT18, RIA
- Big Data PPP - Prize
- Big Data supporting Public Health policies - SC1-PM-18, RIA
- Architectures and organizations, big data and data analytics for customs risk management of the international goods supply chain trade movements, SEC-17-BES-2017, RIA
- Bringing to market more energy efficient and integrated data centres - EE-20-2017, IA
- Big data in Transport: Research opportunities, challenges and limitations - MG-18.2-2017, CSA
Possible topics of contribution to Research and Innovation / Innovation Actions

Development of data structures, algorithms, methodology software architectures for data analytics of extremely large scale structured and unstructured data

Creation of benchmarks for testing information retrieval and big data analytics techniques

Research for near real-time and distributed analytics systems

Ongoing Projects

SNOOPI (2015 - current)

SNOOPI is a national research project jointly conducted by FUB and “Istituto Superiore delle Comunicazioni e delle Tecnologie dell’Informazione” of the Italian Ministry for Economic Development. The main goal is to monitor and analyse the flow of messages sent by Twitter users concerning topics of interest for the Italian Public Administrations.

Microblog Analytics Lab (2013 - current)

The Microblog Analytics Lab is an R&D laboratory for the development of scalable solutions for real-time monitoring, search and analysis of Social Networks. The project is supported by industrial partners.

Past Experiences

IRMA - Intelligent Retrieval in Multimedia Archives (2010 - 2012)

IRMA is an italian project with the aim of implementing technologies and highly innovative infrastructures for the exploitation of the audiovisual heritage in the modern era of digital information, allowing preservation and accessibility of archive materials with retrieval features on the basis of semantic content. IRMA Consortium is made up of 5 Partners with a wide background of expertise and experience in information retrieval, multimedia restoration, processing and visualization, content provider, data mining. The project was supported by POR FESR Lazio 2007-2013.

TV++ (2010-2012) and TV+++ (2012-2013)

They are two national research projects jointly carried out by FUB and “Istituto Superiore delle Comunicazioni e delle Tecnologie dell’Informazione” of the Italian Ministry for Economic Development. The main goal of the projects are to build a scalable system able to monitor, respectively, BLOGs and tweets related to Italian television broadcasts and to automatically analyse the opinion expressed by users.

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