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Giacomo Domeniconi
2015/03/16 14:48
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Ongoing Activities

- Generally speaking, my research is about Data Mining, i.e. the study of principles and methods to extract useful information from great volumes of data.
- Currently, I'm focusing on text mining, the application of data mining principles and techniques to extract information from large collections of unstructured text documents. I'm addressing possible applications like hierarchical text categorization, the automatic labeling of documents with a taxonomy of topics.
- My research is also focused on the opinion mining and sentiment analysis, i.e. the application of natural language processing, computational linguistics, and text analytics to identify and extract subjective information from the huge and unorganized mountains of data caught from the web, and in particularly from social networks like twitter, facebook, youtube etc.

Projects

- **GenData 2020 MIUR PRIN National research project**
  URL: [http://gendata.weebly.com/](http://gendata.weebly.com/)
  Prevention, treatment, management and cure of diseases are all underpinned by the fundamental understanding of their causes, processes and impacts. The technology for fast DNA sequencing appears as the main innovation factor of the next decade: high throughput devices will soon enable reading the whole genome much faster, at higher resolution, and at lower cost, thereby giving us the data to answer fundamental biological questions and open the ground to personalized genetic medicine. While genetic sequencing is "mature" - future advances will concern the number and length of sequences produced per unit of time or the precision of nucleotide identification - a quantum leap is now needed for building the computing infrastructure at the receiving end of DNA sequencing machines. In particular, current genomic data management is struggling on the “initial” problem of storing the data which are fast produced by biologists in their laboratories. A powerful data infrastructure is required for going beyond pure storage, and enabling viewing, querying, analyzing, mining, and searching over a world-wide available collection of genetic data. The vision of the GenData 2020 project is that it is now possible to build the abstractions, models, and protocols for supporting a network of genomic data, made available by genome servers located in the major biologist laboratories in the world. The huge amount of data and the diversity of the platforms and formats yields to a major data management challenge: how to model and store genetic data so as to foster their accessibility.

Teaching Activity

- Teaching assistant for the course of Computer Science at economics, management and statistics school, referent prof. Claudio Sartori (2012 - present). The main activities have been preparation and exposition of the laboratory exercises, assistance to needy students, and review of students practical exams.
- Academic tutor for the degree course Ingegneria Informatica LM at the University of Bologna. The main tasks were to detect students' opinions about the quality of the courses, to assist needy students and didactic secretary.

Research Interests

- Data and Text Mining
- Opinion Mining and Sentiment Analysis
- Meta-Knowledge Systems
- Genomic Computing
- Self-Organising Systems

Publications
• G. Domeniconi, G. Moro, P. Pinoli, M. Masseroli. *Cross-domain Text Classification through Iterative Refining of Target Categories Representations*. 6th International Conference on Knowledge Discovery and Information Retrieval (KDIR), 2014.


**Honors**

• The paper *Cross-domain Text Classification through Iterative Refining of Target Categories Representations* presented at the 6th International Conference on Knowledge Discovery and Information Retrieval (KDIR, 2014) received the *Best Student Paper Award*.