Proceedings

Third International Conference on SImilarity Search and APplications

2010

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Third International Conference on SImilarity Search and APplications

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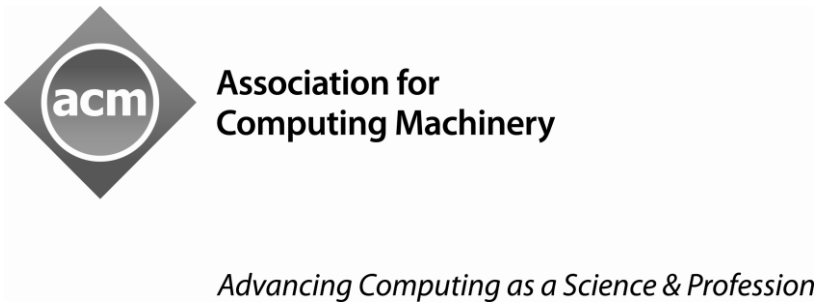
Paolo Ciaccia and Marco Patella



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Foreword

The *International Conference on Similarity Search and Applications (SISAP)* is a conference devoted to similarity searching, with emphasis on metric space searching. It aims to fill in the gap left by the various scientific venues devoted to similarity searching in spaces with coordinates, by providing a common forum for theoreticians and practitioners around the problem of similarity searching in general spaces (metric and non-metric) or using distance-based (as opposed to coordinate-based) techniques in general.

SISAP aims to become an ideal forum to exchange real-world, challenging and exciting examples of applications, new indexing techniques, common testbeds and benchmarks, source code, and up-to-date literature through a web page serving the similarity searching community. Authors are expected to use the testbeds and code from the SISAP web site (`www.sisap.org`) for comparing new applications, databases, indexes and algorithms.

After the very successful first events in Cancun, Mexico (2008) and Prague, Czech Republic (2009), this year SISAP conference has been held in Istanbul, Turkey, on September 18-19, 2010.

Preface

This volume contains 2 invited papers, 11 regular papers, 2 posters and 6 demos, presented at SISAP 2010 conference, held in Istanbul, Turkey, on September 18-19, 2010. The papers were selected from 29 submissions, by a renowned program committee. We received submissions from all over the world (Argentina, Chile, China, Cuba, Czech Republic, Germany, Greece, Italy, Japan, Mexico, Norway, Spain, and USA). In this third volume of the SISAP series, the acceptance ratio of 66% was achieved as a result of the increasing quality of submissions established last year. The papers were selected based on their originality, relevance, and technical strength.

The submissions cover the spectrum of similarity searching topics from novel indexing techniques, to approximate methods for speeding up similarity search in metric/non-metric spaces, to applications in computerized biology, image classifications, and content-based image retrieval. In the demonstrations section a large number of interesting prototypes of similarity search engines, related to content- and semantics-based retrieval of multimedia data (audio, images, and video), was presented. Finally, the posters present an approach for balancing splits in indexing techniques based on generalized hyperplane partitioning and a system for automatic video annotation based on similarity among detected shots.

Two invited speakers gave excellent and thought-provoking talks. Prof. Vladimir Pestov provided interesting connections between similarity searching in metric spaces, the phenomenon of concentration of measure on high-dimensional structures, and the Vapnik-Chervonenkis theory of statistical learning, deriving bounds on performance of well-know indexing structures and showing how statistical learning methods can be used to build indexing schemes in datasets drawn from distributions of lower intrinsic dimension. Prof. Tomáš Skopal discussed the impact of the metric indexing paradigm on real-world applications, analyzing the world of similarity searching in metric spaces from the point of view of practitioners, transforming his conclusions into research challenges and perspectives of the similarity search methods. These contributions given by leading researchers definitely contributed to an in-depth and up-to-date understanding of fascinating fields and will surely stimulate further research.

Extended versions of the best SISAP 2010 papers were collected and will be published in a special issue of Journal of Discrete Algorithms (Elsevier).

We are grateful to the program committee members, the local organizers, and the external reviewers for their committed and high-quality work. We highly appreciate the work done by Karina Figueroa for maintaining the Metric Library, and those who contributed to it. Reviewing of papers and preparation of the proceedings were done using the EasyChair conference system (`www.easychair.org`), for which we specially thank Andrei Voronkov. Last but not least, we thank Adrienne Griscti (ACM program manager for SIG publications) for her hard work in helping us publishing these proceedings.

Paolo Ciaccia and **Marco Patella**
Istanbul, Turkey
September 19th, 2010

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