



Special issue on content-based image retrieval

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The 25th International Conference on Pattern Recognition (ICPR) was originally scheduled to be held in Milan in September 2020. In that occasion we thought it would be a good idea to see where we stood in an area that has experienced varying progress and popularity (the two tend to go together) over the last three decades: Content-Based Image retrieval (CBIR). We proposed a workshop on the theme, which the organizers of the conference accepted. The year 2020 marked the 20th anniversary of the publication of a paper that was to become one of the most frequently cited in CBIR [1] (As of today, google scholar credits it with some 10,000 citations) and which defined the year 2000 as "the end of the early years" for CBIR. In view of this coincidence, the tone of the workshop just set itself: we wanted to know what the 20 years after "the early tears" had been like: we wanted to regroup and see where we were and where we were going.

Alas, the events of the covid-19 pandemic made it impossible to hold the conference at the scheduled date. The conference was postponed to early 2021 and then, much to the chagrin of the organizers, it became clear that the only way to have a conference at all was to have it on-line. Alas, this prevented us from having the kind of fruitful personal interaction that is so often the best part of a workshop: technology has changed a lot, but people have not, and direct human contact is fortunately still irreplaceable. Fortunately, while the on-line solution reduced somewhat the quantity of submissions, it did not reduce their quality.

As it is sometimes the case, we decided to associate to the workshop a special issue on a peer-review journal and we were lucky enough to encounter the cooperation of *Multimedia Tools and Applications*. Given the turbulent structure of the conference and the workshop, we opted for widening up the scope of the call for papers, including submissions that had not originally been submitted to the workshop but were in the same general area.

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This complicated the review process, which turned out to take longer than we originally expected but, thanks to the invaluable collaboration of the reviewers (and, sometimes, to the patience of the authors), the process has now reached its conclusion. The result is the collection of papers that you now hold in your hand (metaphorically, in most cases, we surmise). They represent a good snapshot of what is going on in the field today.

Things have changed a lot since the early years of CBIR ended. The main event, whose consequences we are still grappling with, was undoubtedly the irruption of deep neural networks, which quickly became the preferred method for a number of hitherto hard problems. These changes are well reflected in this collection of papers. It is significant that not only none of them could have been written 20 years ago; they could not even have been fathomed.

We hope that you find this collection as interesting to read as we found it to edit.

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Guest Editors

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