The 30th Anniversary of the IEEE Transactions on Pattern Analysis and Machine Intelligence

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The year 2010 marks the 30th anniversary of the IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), although the precise timing is a matter of some debate (overly meticulous readers might point out that the first issue appeared in January 1979). However, it is indisputable that TPAMI celebrated its 20th anniversary in 2000, and I will follow this tradition and declare this year to be our 30th anniversary.

An anniversary, of course, is traditionally an occasion to look at the past for perspective and also to think about the future. For the 20th anniversary, TPAMI published a series of survey articles, and it is instructive to consider the areas represented: statistical pattern recognition, document image analysis, handwriting recognition, medical image analysis, sensing for ubiquitous computing, and content-based image retrieval. While many of these areas remain important, perhaps the most striking development of the last decade has been the growth of areas at the intersection of computer vision and other fields. Machine learning, of course, is the preeminent example, but graphics and discrete optimization have also gained considerable importance.

These developments have on the whole been very positive, for everyone involved. While much ink has been spilled about the importance of interdisciplinary work, many significant research advances reported in TPAMI would have been impossible without bringing in expertise from other fields. I am not brave enough to hazard a guess as to which fields will bring significant contributions to TPAMI in the decade to come, but I expect that this trend will continue.

Turning to the current state of the journal, TPAMI is in excellent shape. The standard way of measuring the overall excellence of a journal is the Thompson-ISI impact factor, and TPAMI in 2008 has surpassed even its impressive 2007 performance. The impact factor is now 5.96, and there were 24,674 total citations in 2008. This makes TPAMI not only the #1 IEEE (and thus IEEE CS) publication, but also #1 in both electrical engineering and artificial intelligence, as well as #3 in all of computer science. These numbers are all-time highs.

The reviewing process on the whole is fairly timely, and can be spectacularly fast (for example, there is currently a full-length paper in press that was accepted less than 2 months after it was submitted, having received four enthusiastic reviews). The other extreme, unfortunately, does occur, and I want to take this opportunity to apologize to the authors whose papers lag in the reviewing process. To provide some numbers, there were 891 submissions in 2008, and we are on track for a similar number in 2009 with 729 received as I write. The acceptance rate for 2008 submissions was 22 percent. The typical time from submission to final decision is about six months, which is unchanged from last year.

The main operational issue that we all face is the continued delay in print publication (papers are published online quite quickly after acceptance). Several of us are actively looking into ways to reduce the print queue, and I hope to have some good news on this score in the near future. There will most likely be a very modest tightening of our acceptance criteria, since it seems unwise to significantly increase the number of pages we print.

There are many people to thank for the success of TPAMI, but I want to begin by acknowledging my predecessor as EIC, David Kriegman, and his associate EIC David Fleet (the impressive TPAMI impact factor numbers cited above come entirely from papers accepted under their watch, of course). The authors who choose to submit to TPAMI play the most important role, but at least there is an obvious reward when their papers are published. The reviewers in particular are the “unsung heroes” of the entire process, and I am actively looking into some small way to acknowledge their efforts. And of course, it would be impossible to handle the number of submissions we receive without the help of the dedicated members of the editorial board. While the IEEE Computer Society staff has been unfailingly helpful, 2009 was a particularly challenging year, and they have had to do more with less. I particularly want to acknowledge Elaine Stephenson, who served with distinction as the TPAMI editorial assistant for five years.

The situation for journals in 2010 poses some obvious challenges, such as the growing popularity of new ways to disseminate research results, even within traditionalist institutions such as universities. Yet TPAMI is well positioned due to its nonprofit status, along with its long-established tradition of publishing high-impact papers. We can all look forward to the many exciting research developments that will no doubt appear in TPAMI in the coming decade.

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