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Write Feature Articles with a Lasting Impact

Under the leadership of Editor-in-Chief Shih-Fu Chang, *IEEE Signal Processing Magazine (SPM)* has instituted a number of new initiatives. Among them is the transformation from the current practice of passive processing of contributions to a new, proactive, and holistic process. I am honored to participate in this process as the area editor for feature articles. There comes a call for technical expert groups and individuals in our signal processing society to write feature articles that will have a long-lasting impact and archival value for the broad cross sections of our community. We also encourage you, readers of *SPM*, to recommend to us potential authors who are capable of writing such articles. For example, you may hear a memorable keynote/plenary speech at a conference/workshop. Let us know about this.

How do magazine feature articles distinguish themselves from regular transactions papers? Typically, a transactions paper is a forum for extensive documentation and technical discussions of research ideas and engineering practices pertaining to one specific area. In contrast, a feature article in *SPM* should ideally have a much wider audience across many (if not all) areas or subdisciplines in signal processing. I see the classic embodiment of a feature article in its cross-disciplinary and tutorial nature. As a tutorial, it must be accessible to nonexperts, a criterion that typically does not hold for a transactions paper.

What kinds of feature articles would be most appealing to *SPM* readers? First, they provide new insights to the problem of interest to many of signal processing

areas. This would demand that a feature article be not merely a tutorial review or summary of a collection of previously published technical articles. Rather, it should ideally offer a fresh look at the old problem, possibly unifying the earlier disparate treatments of the problem from one level above the traditional, more isolated views.

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Second, a good feature article explains complex concepts and subjects in a way that is easily accessible to the general, nonexpert audience. The clever use of illustrations and multimedia tools, clean and consistent mathematical notations, simplified yet still rigorous derivations and proofs, and insightful analogies/comparisons among different subdisciplines all positively contribute to this desirable attribute that I would like to promote. As an example of the last point, in the recent IEEE Workshop on Multimedia Signal Processing (2006), a special panel was held on "Similarities and Differences in Analysis Techniques for Speech/Audio and Image/Video Processing." While no single panelist is equally specialized in both subareas, the collective efforts among all panelists in nonsuperficial comparisons provided deep insight on the subject matter for the workshop attendees.

The third desirable attribute of feature articles is the ability to introduce the *SPM* readers to an emerging area in signal processing. Such feature articles

offer the value of bringing the readers quickly to a new area and of highlighting the importance of an emerging topic. This value would be more difficult to realize by transactions-type papers.

What is the process of getting a feature article published? First, the prospective authors submit, either by invitation or by contribution, a brief white paper outlining the content of the proposed article to me (deng@microsoft.com; see the scope and requirements at <http://apollo.ee.columbia.edu/spm/>). The white paper contains an overview of the article, which will be sent for review (with five specific criteria) by our 28-member Editorial Board.

Based on the review results, a summary is written and a decision is made, and both are communicated back to the authors. In the case of a positive decision on the white paper, the full article will be invited, which will undergo a rigorous peer review process before the acceptance for publication in *SPM*.

I would like to close with a call for recommendations of and contributions to future feature articles that will have an impact in one or more of the three aspects outlined above. *SPM* has been highly ranked among all IEEE publications for a number of years under the leadership of Shih-Fu Chang and Ray Liu. With the new proactive process in place, we will strive to elevate the quality of our *SPM* articles further. I thank many of you who have interacted with me in the past, and I look forward to actively working with more of you in the future.

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