How to Submit a Quality "Tips & Tricks" Column Article

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As *IEEE Signal Processing Magazine* (*SPM*) editors, we have received a relevant number of submissions for the "Tips & Tricks" column, however, we are unable to accept, or even process, many of them because they fail to match the required format and style of the column. Understanding the purpose of this column is actually the key for a successful submission and, thus, here we aim to provide some help in this regard.

"Tips & Tricks" articles are targeted to students, signal processing practitioners, senior engineers, and also experienced researchers. As the column name clearly expresses, the articles are expected to describe simple signal processing tricks and/or tips that are both relatively easy to understand and can be immediately used in a wide range of practical applications.

Topic: Ideally, the topic should find applications in a wide variety of signal processing fields, and not only in a specific subfield. A new method for designing a filter for a physics-based piano synthesizer, for instance, might be too limited, but a new method for designing a lowpass filter would perfectly match the expectations. Nevertheless, even if the application field is more specific, it can still be a good "Tips & Tricks" article whenever the problem is highly interesting— similarly as a math exercise can be fun to solve even if you don't find any application to that at the moment. After all, the column also serves as an easy-to-read piece of work during your lunch break!

Novelty Value: While we warmly welcome tips and tricks capable of offering a new idea to solve a problem, new research results are not expected. Thus, you might submit something for which the main fundamental theory has already been published either by the author(s) themselves or by someone else, however, you are expected to reveal a new trick or a new tip or even a new insight involving its practical usage. There are many useful algorithms that have been invented years or decades ago, but somehow did not get proper attention or have not been yet completely explored: these are equally good candidates. This why the "Tips & Tricks" article should be sufficiently different from those previous publications, mostly in the way it is presented.

Presentation: The presentation should be self-containing, so that everyone with a general signal processing knowledge, i.e., what is contained in most signal processing textbooks, should easily understand the article without reading the references. We expect readers to have sufficient knowledge about discrete Fourier transform (DFT) and infinite impulse response (IIR) filters but cannot expect that they are familiar with signal processing used in radar, for instance. The article should also outline the previous approaches or available alternatives to put the proposed algorithm into context, in addition to quantitative or qualitative comparisons to those alternatives, whenever possible. Note, however, that if the value of the proposed

algorithm can be evaluated only by using lengthy discussions and comparisons, then probably the topic itself is not well suited for this column. Besides the tutorial-like presentation, equations, block diagrams and simulations or practical examples are the key to explain the tip or trick in sufficient depth.

Format: According to the "Information for Authors" [1], the submission format for most columns is up to 10 pages with 1.5-pt spacing, 12-pt font size, including up to 4 figures, and up to 12 references and short bios of the authors. Having a few pages more or 5 figures instead of 4 is usually negotiable with *SPM* editors, but it is clear that this column is not targeted to articles requiring long explanations and dozens of references. Note that *SPM* articles do not have section numbering, and their abstract actually appears as the first paragraph of the article. A LaTeX/Word template is also available to help the authors [2].

Reproducible Research: While not a strict requirement, we encourage authors to share their code and used data sets, e.g., in the form of MATLAB files, so that the readers can quickly try out the new trick they have just learned. Common experience shows that algorithms with freely available code have been more frequently used, which also brings more citations to the authors.

Authors: Some might think that they need to be established researchers or educators in the field to "have the right" to submit a "Tips & Tricks" article: this is not at all the case, and everyone is encouraged to contribute to the column whenever a great and suitable idea comes to mind.

Take a Look at Previous "Tips & Tricks" Articles: Take a look at some "Tips & Tricks" published articles to familiarize yourself with the format before writing your article. If you find an article useful, easy to understand, and fun to read, then that is probably a good example to follow.

Contact the Associate Editors: We strongly encourage you to contact the area or associate editor(s) in advance if you have a specific topic/idea. You can email us at guido@ieee.org, bank@mit.bme.hu, and vzhao@tsinghua.edu.cn. The editors help in tailor the topic to fit the column better, but they are also happy to give further advice about the expected style and presentation, and thus avoid the immediate rejection of the article.

We hope that our readers take this guide also as an encouragement to submit a "Tips & Tricks" article—while we do not lack submissions, we lack *proper* submissions; hopefully this will change with your new contributions!

References
[1] *IEEE Signal Processing Magazine*, "Information for authors—SPM." [Online]. Available: https://signalprocessingsociety.org/publications-resources/ieee-signal-processing-magazine/information-authors-spm
[2] *IEEE Signal Processing Magazine,* "SPM columns LaTeX/Word templates."
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