Reliability, Theme Issues, and Plagiarism

Erik R. Altman
Thomas J. Watson Research Center

This issue addresses reliability, a topic of increasing importance. As a testament to that fact, we received a very large number of submissions and had to reject many strong papers. Guest Editor Vijay Janapa Reddi has done an excellent job in recruiting these many papers, and in organizing a fair and careful reviewing process.

Reliability has always been a design issue, but its import is increasing as lithographies continue to shrink, we add complexity such as new memory types and 3D stacking, and computing enters more and more environments, and more and more challenging environments in terms of voltage, temperature, power, and other factors. To complicate matters further, errors can be hard or soft and can exist from initial chip and system creation or occur later. The articles in this issue cover these issues and more. I hope that you will both learn and find useful elements for your own endeavors.

As with all articles published in *IEEE Micro*, the articles in this issue contain significant new research material. *IEEE Micro* requires at least 30 percent new material over any previous publication, such as a conference publication on related material. This requirement is in keeping both with overall IEEE policy and *IEEE Micro*'s mission to showcase important new research for the community. I should also note that the amount of new material needed remains a subject of debate within IEEE, with some arguing for a significantly higher proportion of new material.

This debate has particular meaning for *IEEE Micro* because the magazine often showcases new research via theme issues, which provide a focused look at recent research in key areas, as with this issue on reliability. Articles in these theme issues sometimes provide the first look at wholly new research. However, theme issues often attract a strong core of articles building on existing work, articles that highlight key prior work, while providing additional insights, experiments, motivation, and use cases for that prior work. As such, changes in novelty requirements could induce changes in our theme issue approach. I hasten to add that no such changes appear imminent.

Our theme approach and reliance on articles building on previous work yields an administrative issue: articles are often flagged (incorrectly) by automated checks as being plagiarized—or, more precisely, self-plagiarized, from prior work by the same authors. Recently, such automated plagiarism checks have been initiated for all submissions to *IEEE Micro*, as they are for submissions to other IEEE Computer Society publications.

It is of course our job to investigate further cases flagged as potential plagiarism, and I am happy to note that during my tenure as *IEEE Micro*'s Editor in Chief, we have noted no real cases of plagiarism. I hope and believe that is an accurate representation of reality. Alas, the same lack of plagiarism is not true for the broader IEEE Computer Society, where significant plagiarism cases occur regularly—varying between 25 and 75 cases per year in recent times. These cases are taken very seriously, and authors against whom such charges are substantiated after thorough investigation are banned from publishing in any IEEE venue, along with additional actions as appropriate.

Plagiarism issues aside, it would help *IEEE Micro*'s readers, editors, reviewers, and staff for authors to cite in any submissions their own prior work and provide a brief summary of differences with that prior work. I encourage you to do so. Such citation and explanation has an obvious benefit for authors as well: readers who build on your work are more likely to distinguish the two works and cite both.

As always, happy reading!

Erik R. Altman
Editor in Chief
IEEE Micro

Erik R. Altman is the manager of the Dynamic Optimization Group at the Thomas J. Watson Research Center. Contact him at ealtman@us.ibm.com.

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