

Guest Editorial

Plagiarism

WELCOME to this special issue on plagiarism. One aim of this special issue is to sensitize academics, referees, authors, and editors to the need to watch for plagiarism. The issue contains ten interesting and insightful papers on the topic. We have included a good mix of practice and theory, program, and ethics. However, we were not convinced that a paper full of URLs pointing to all the paper mills was a good idea. Students also read the TRANSACTIONS!

Each paper has been refereed, and in all cases, recommendations for improvement were implemented. Every paper required at least some minor fixes. There was also a natural variance in the amount of work required to fix the papers received. There are those authors who have trouble with English, and we demonstrated to them our willingness to help them prior to them officially submitting. Our work went beyond merely stamping “accept” or “reject” on received papers. Our feeling is that the strength of the IEEE is its international audience and we capitalized on that rather than rejecting a paper for poor grammar.

The whole point of this special issue is to draw attention to some good material that otherwise might not see the light of day because of a lesser emphasis on plagiarism. We have tried to show the current state of plagiarism, providing food for thought and action.

I. WHAT IS PLAGIARISM?

The IEEE defines plagiarism [1] as the reuse of someone else’s prior ideas, processes, results, or words without explicitly acknowledging the original author and source. Five levels of plagiarism are described. A number of other IEEE Web pages exist related to plagiarism, including those on how to detect it and what to do about it. These Web references can be found by searching from the home page of the IEEE.

Our best practice definition of plagiarism and how to avoid it, which we adopt here, is [2]

“Plagiarism is the illegal practice of taking someone else’s ideas, data, findings, the language, illustrative material, images, or writing, and presenting them as if they were your own. To avoid plagiarism, reference the source and put quotation marks around all of the quoted words, or paraphrase and reference.”

II. WHY WORRY ABOUT PLAGIARISM?

The following sentences appeared in our announcement (call for papers) soliciting papers for the special issue. “Plagiarism is an unacceptable and growing threat to academic integrity and a threat to the very foundations of the academic system. This threat is especially true in a world where Information Technology has made copying information easier. The problem

needs to be recognized and tools need to be developed which are readily available to identify plagiarized work.”

The motivation behind this special issue is to uncover the root causes of plagiarism and suggest new ways of counteracting these causes. The selected papers all present sound methodologies that generally are supported by verifiable statistical evidence.

What a lot of work we have to go through to catch that plagiarist. How much simpler life would be if all students behaved ethically! In an ideal world there would be no plagiarism. However, we live in a nonideal world. So we need programs which can help us identify potential plagiarists. Because we live in this nonideal world, such an ideal program does not exist. Even were it to exist, it would not flag common technical phraseology. It would detect all cases of sequences of stolen words, irrespective of sloppy student use of nonmatching quotation marks; it would correctly detect all cases of unattributed paraphrases, and even detect copying of ideas, diagrams and data. To do this, it would have in its database all scholarly work, all books, all websites, all student submissions to all universities worldwide, including all where English is not the language used.

III. A SHORT REVIEW OF ARTICLES IN THIS SPECIAL ISSUE

Culwin’s paper [3] is a much extended version of a paper that was presented at the second international plagiarism workshop. His conclusion is “the adoption of a proactive academic misconduct policy by a department can result in a quantitative reduction in plagiarism. Moreover, the policy can also be shown to make a change in the behavioral attitudes of students as evidenced by their increased use of referencing and so it can be argued that they have been more effectively inducted into academic culture, conduct and values. Hence they have been better educated.”

The editors appreciate it when a paper is correctly submitted without any reference to prior art in the field: such a paper must be very original indeed. Such is the paper by Kaner and Fiedler [4] on a simple but fascinating experiment. They want to show that two commercial programs do not work (and by extension all similar programs). In other words, save your money and do not pay for the so-called “service.” Part of the fundamental problem with such “services” is that lecturers cannot, for example, load IEEE copyright papers into the databases of these commercial programs!

Rosales *et al.* have made a good contribution [5], for their approach highlights the invisible fingerprints in the original and copied files. Sadly, their statistics show that “there are always some students trying to pass their assignments without doing their work.”

Since the plagiarist is being sneaky, we can be even sneakier. As McCart and Jarman [6] show, we can even look at records of object creation dates, to zoom in quickly on likely plagiarists.

As McCuen points out [7]: students do not understand that research takes time; and that writing the research takes time. Researching and writing should be concurrent activities, and

not something to be rushed into just before the deadline arrives. General sloppiness in performing research is the breeding ground for plagiarism in writing.

There are variations in the interpretation of plagiarism across the globe and across faculties. Cosma and Joy [8] report that one issue is the different attitudes taken towards marked work and unmarked work. A similar watershed occurs for material intended for academic or industrial use. Cosma and Joy point out that fabrication and falsification of references often occurs at the same time as plagiarism, but is a different form of academic misconduct.

Issues of plagiarism are more sharply focused in the writing of source code than in the writing of prose or poetry. Also, tools for detection of plagiarism usually have an easier job in the case of code because of the strict syntax, compared to that of natural language, where so many nuances of expression may be created. If a student uses code-generating software, removes the acknowledgement comments which were automatically placed into the code by the software, and submits it without providing any acknowledgements, then that is equivalent to using a ghost-writer to write prose, and is truly plagiarism. Students should be required to acknowledge any material they use that is not their own original work regardless of the licensing permissions of that material (e.g., open source). The parallel implication for prose is that if students use Wikipedia in their introductory prose, this should not be regarded as “common knowledge” and must be cited. There is a distinct difference between students sharing ideas on how to write a program and students copying each other’s ideas for prose. The first is expected, and requires no acknowledgement; the second is plagiarism if unattributed. Convergence of ideas may cause similar solutions to arise independently in the writing of programs or prose.

When universities are accepting students from other universities, they need to ensure that they receive not just the marks of the students, but their full student records, which include records of misdemeanors such as plagiarism. The work of Beute, van Aswegen, and Winberg [9] about a new university hints at the idea that as education is becoming globalized in today’s world of Wikiversity, strong, clear policies and action on plagiarism are essential.

Both Beute *et al.* [9] and Broeckelman [10] would recommend a sensitizing of academic staff to the existence of plagiarism as a means to dissuade plagiarism, as well as a way of improving the detection rate, reducing the plagiarism rate and thereby reducing the perception that “I must plagiarize because so many other students are plagiarizing.” We need an attitude of “No one is plagiarizing, so I don’t dare to plagiarize.”

Jian *et al.* [11] have done interesting work in showing that students around the world are not as different from each other as we might have thought.

Graven and MacKinnon [12] point out the synergy that exists between the art of plagiarism detection and automated assessment, and this relationship should be built upon.

The best pointers for educationalists are those from Broeckelman [10], paraphrased and quoted as follows:

- Talk about expectations for academic honesty on the first day of the class.
- Talk among academic staff about expectations for academic honesty.

- We would recommend that faculty ask each other tricky questions.
- For example, is it ethical for a researcher to pen a speech for a mayor without any references being included?

IV. RECOMMENDATIONS

We need to strengthen the curriculum and help students to cope with the pressures that breed plagiarism. In the Web world of free, rough translators, good plagiarism detection software should be developed proactively.

The special issue deals with very diverse facets of plagiarism, but further work remains to be done, especially to create an IEEE standard.

ACKNOWLEDGMENT

The guest editors would like to thank all the authors for meeting the standards and deadlines, thus allowing to bring together such an interesting special issue on the current state of work in plagiarism and programming. This special issue is dedicated to the happy memory of Seana Culwin.

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