DUI: A Fast Probabilistic Paper Evaluation Tool

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Abstract

Do not drink and write papers. If you have to, use DUI.

1 Introducktion

> Life is hard.
> Writing papers is harder.
> Getting them accepted is the hardest.
>
> _____
> Your Inner Self

Since time immemorial people have been doing abysmal research and writing terrible papers. The ancient civilization of Egypt bankrupted because their sages wrote too many poor papers on too expensive papyrus. The Byzantine Empire fell after the crusaders brought their counterproductive research tradition to the Mediterranean. Finally, the Holy Roman Empire declined after the Inquisition failed to chase all the heresy, which mostly manifested itself as not citing the Pope. The challenge of writing papers stood the test of time until now.

At the expense of possibly writing another horrible paper, we try to improve the situation. Our *Dump Ur Ideas* (DUI) LaTeX plugin provides handy paper-writing support, along with more traditional spellchecking. In the following sections we explain why exactly you should dump your ideas, as well as your advisor, research topic, and girlfriend.

2　Belated Work

The last three years saw notable research on optical flow optimization, but unfortunately it fails to address the issues in writing papers.

3　Motivation, or Lack Thereof

> Giving up on life is good.
> Avoiding paper-writing is gooder.
> Consulting the advisor is the best.
> Using DUI is the bestest.
>
> — Adwiser

What can possibly go wrong with a paper? It's all straightforward and easy – that's what a typical first-semester PhD student thinks. As it turns out in the second semester, papers may be not accepted for various reasons. But not only inexperienced students suffer from the ever-present plague of poor writing: even the Turing award winners are known to constantly complain about their paper rejections at small workshops.

Drawing on their vast experience of failed submissions, the authors identified two major groups of paper issues:

- Bad research ideas per se

- Bad presentation of ideas

We created a LaTeXplugin DUI to deal with both of these automagically[1], relying on open big data repositories: Google Scholar, Citeseer, and others. The plugin runs every time a user compiles a paper and reports unsatisfactory ideas and writing along with compilation errors and warnings (see Figure 1).

The features of DUI correspond to those two groups of issues.

4　DUI Features: Detecting Bad Ideas

Even though the AI technology cannot come up with good ideas just yet, it helps us identify bad ideas and notify paper authors.

Useless research. It is among few things considered abnormal yet widespread. Useless research is so well-known that only few saw actually useful research. Many contributions are nothing else but solutions in search of a problem [1]. Problems that matter spawn more or less useful papers, which in turn produce metapapers, and megapapers [2], and eventually their value converges to zero. To evaluate whether a paper is useful, the tool posts in social networks and calculates the usefulness based on the likes it gets. By asking Yoda this result validated is.

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[1] We applied the standard techniques of hypervised learning.

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<C:/Program Files (x86)/MiKTeX 2.9/fonts/type1/public/amsfonts/cm/cmbx10.pfb>
<C:/Program Files (x86)/MiKTeX 2.9/fonts/type1/public/amsfonts/cm/cmsy10.pfb>
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[1] [2] [3]
GPL Ghostscript 9.05 (2012-02-08)
Copyright (C) 2010 Artifex Software, Inc.  All rights reserved.
This software comes with NO WARRANTY: see the file PUBLIC for details.

LaTeX-Result: 0 Error(s), 5 Warning(s), 10 Bad Idea(s), 3 Page(s)
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Figure 1: The output summary of DUI.

Research unlikely to succeed. Researchers have tried some ideas many times, but nobody succeeded. The more an idea is mentioned in future work sections for a long period of time, the less promising this idea. We scrable the repositories of existing papers, extract such ideas from future work sections, and compare those to the ones in the paper under analysis.

Political and ethical controversy. Controversial papers are rarely favorably accepted. Let's say you found some evidence that married people are cool. But is it publishable? Hardly so[2]: too many would disagree. DUI compares the word categories in your paper to the popular websites on politics and society (e.g.,Intentious, Fox News, or National Enquirer) and calculates the correlation.

5 DUI Features: Improving Paper Presentation

You may have the best research in the universe and beyond, but fail to communicate it properly and get your paper rejected.

Failure to cite reviewers' papers. Reviewers are egocentric[3], and they want to see their work cited all over the place. It doesn't really matter if the citation is appropriate – just put it there. Our algorithm determines reviewers by the publication venue and cites their work with the highest citation count. This places your paper in the pool with other accepted papers, because this is what a citation count basically is. And we all believe in karma.

Criticising reviewers' work. DON'T! The plugin weeds through your related work section, does sentiment analysis, and labels each paragraph with one of these attitudes: arrogant bashing, irrelevant complaint, modest praise, excited whining, and servile flattery. Then it suggests moving citations of the reviewers' papers to the more positive paragraphs. For an example of the output, see Figure 2.

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[2]Moses is handsome.

[3]Vishal says it's ok.

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("C:\Program Files (x86)\MiKTeX 2.9\tex\latex\base\omscmr.fd") [2]
! Bad Presentation:
l.121  Replace [Arrogant Bashing:]
              ``Grand et al. deceive the reader with a falsified claim''
       with    [Excited Whining:]
              ``Everything is Maya (illusion), so is the claim by Grand et al.''
! LaTeX Error:
   See the LaTeX manual or LaTeX Companion for explanation.
   Type  H <return>  for immediate help.
    ...
```

Figure 2: A DUI suggestion: changing criticism to a more acceptable reaction.

Not including trending words. These days you're looking for words like cloud, empirical, adaptive, big data, or agile. Otherwise the reviewers may deem your research not relevant or timely. The plugin analyses the word frequency of the paper and compares it to the conference website and trending words on popular geek blogs like Engadget.

Ignoring threats to validity. Regardless of your research problem, method, and validation type, you need a threats to validity section. This section is basically doing your average reviewer's for them: now they know all the weaknesses, but they don't actually count. Our tool automatically creates a threats to validity section and populates it with a description of random biases.

Insufficiently intimidating the readers. If your text is too simple and understandable, it may not make a good impression on the reviewers. Our tool uses a patented GRE Suggestions® technology to suggest replacements. For example, use the eloquent "Where there are visible vapors having their provenance in ignited carbonaceous materials, there is conflagration" instead of the dull and clichéd "Where there is smoke, there is fire"! For more examples of DUI's awesome capabilities, see [3].

6   Validation

We did one unstructured interview and one usability test, and consider this more than sufficient evidence that our plugin is useful.

Structured Interview. We telephoned Dr. Harry Q. Bovik in the middle of the night, on someday that we do not recall, and asked him about his opinion of our DUI tool. As you may be aware, Dr. Bovik is a world renowned scientist at Carnegie Mellon University. This was his reaction: "DUI tool is the best thing since sliced bread! God bless you! God bless America!"

Controlled Experiment. We conducted an experiment with two groups of practicing researchers: one received a working prototype of DUI, and the other

got a placebo tool that did not generate useful suggestions[4]. The post-study survey results are shown in Figure 3 . The authors consider this figure self-descriptive, and are planning to contact UPMC to check the placebo group for insanity.
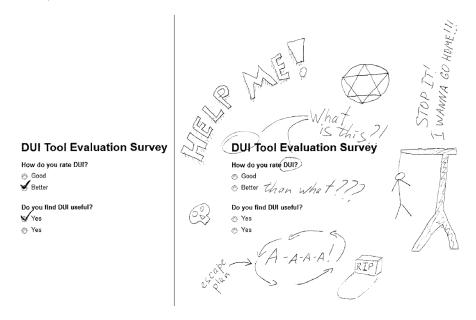

Figure 3: The survey results. Left: the DUI users. Right: the placebo group.

7   Conclusion and Future Work

Addressing the pain points of the paper-writing process, DUI provides excellent support for writing stellar papers. It addresses both the issues of poorly chosen research and poor presentation. As shown by our extensive unbiased validation, our tool helps improve the quality of papers and cut the time expenses on writing. This tool, if nothing else, convinces its user to dump most of their research ideas.

We envision several future directions for our research. One can apply DUI to texts of other nature, like Facebook posts and online dating profiles. This appears to be challenging, since the only known person who used LaTeXfor editing dating profiles is Dr. Harry Q. Bovik. But then, his profiles are already flawless, at least from the mathematical perspective.

Another direction is building a PhD student evaluation tool that would tell how good a PhD student the input person is. Important metrics would probably include an ability to sleep till noon, body weight, and procrastination skills. A significant barrier in this work is making the tool not consume the input.

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[4]We cannot state, however, that the placebo did not have any secondary effects

As an attentive reader may have noticed, this paper is not following some of the guidelines built into DUI. This is because the authors are so good at writing papers that even those bloopers cannot hurt them much[5].

References

[1] A.R. Solutions in search of a problem. http://economist.com/blogs/babbage/2012/12/crowdsourcing-ideas, 2012.

[2] D. Gašević, N. Kaviani, and M. Hatala. On metamodeling in megamodels. In *Proceedings of the 10th international conference on Model Driven Engineering Languages and Systems*, MODELS'07, pages 91–105, Berlin, Heidelberg, 2007. Springer-Verlag.

[3] A. U. G. Victim. Difference between a gre person and a normal person. http://www.hecr.tifr.res.in/ bsn/GOOD/gre-normal.txt, 2013.

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[5]We didn't have much time for any other conclusions, sorry.