

Suggestions to Enhance the Scholarly Search Engine: Google Scholar

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Abstract: The scholarly search engine Google Scholar (G.S.) has problems that make it not a 100% trusted search engine. In this research, we discussed a few drawbacks that we noticed in Google Scholar, one of them is related to how does it perform (add articles) option for adding new articles that are related to the registered researchers. Our suggestion is an attempt for making G.S. more efficient by improving the searching method that it uses and finally having trusted statistical results.

Keywords: Google scholar, E-trust, Research, Search Engines, Papers, Algorithms, Problems Solving

1. INTRODUCTION

G.S. offers a simple approach to search for academic works. You can search through various disciplines: articles, theories, books, and reviews, from academic publishers. G.S. reliefs you find significant work through the world of scholarly research [1].

Features of G.S. [3]:

- Search all academic works from one place
- Discover associated works, citations, and authors
- Find the complete articles' text on the web
- Be up to date with recent scientific development
- Track your publications citations

G.S. will surge your educational influence and reflectivity in your research area.

Four steps to make G.S. profile [2]:

- You need Gmail account to make your profile.
- Fill in mandatory fields in the registration form, and then click next, etc...
- Then you can add your articles, in this form your name will automatically be in the author field.
- Finally you can update your profile page. It is suggested to leave the option of Automatic update your list of articles so G.S. will be able to automatically brings up-to-date your published articles.

The author can search for author's profiles to read their articles or to any personal purposes,

After you signed in to your account, you can search by articles from here (See Figure 1):

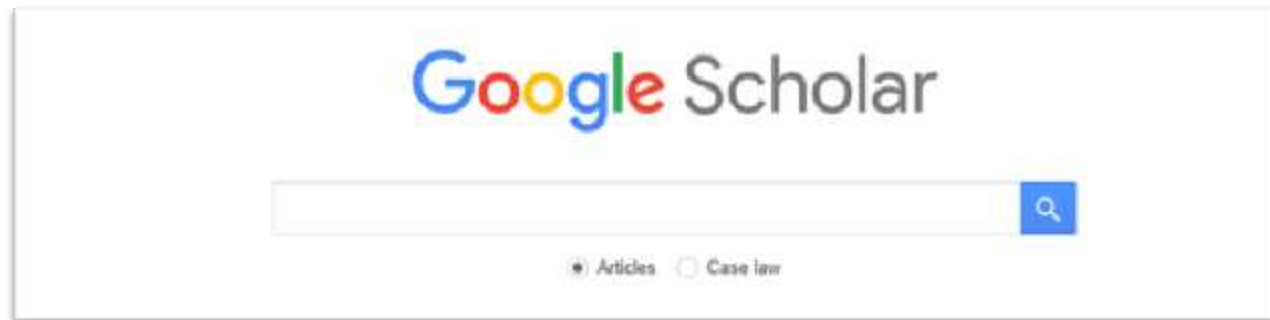


Figure 1: Search for articles

Moreover, when you open your profile, you can search by authors (profiles) as seen in figure 2:

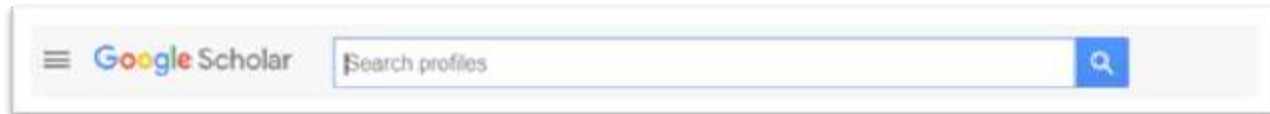


Figure 2: Search for author profiles

2. PROBLEM STATEMENT

In spite of the good features and the advantages that *G.S.* provides, there are some tiny drawbacks that we are supposed to state them in this paper and give suggestions to get rid of them.

The **FIRST** issue, when a new researcher creates his/her own profile in *G.S.* and has not published any article yet. On the other side, there is another researcher who wants to search about him/her. In fact, the later one cannot find the profile unless the first one already has at least one research added to his/her profile. So, in this case, the **SECOND** issue is coming, the first researcher can add any articles to his/her own profile, which does not belong to him/her.

Here is a profile with no articles:

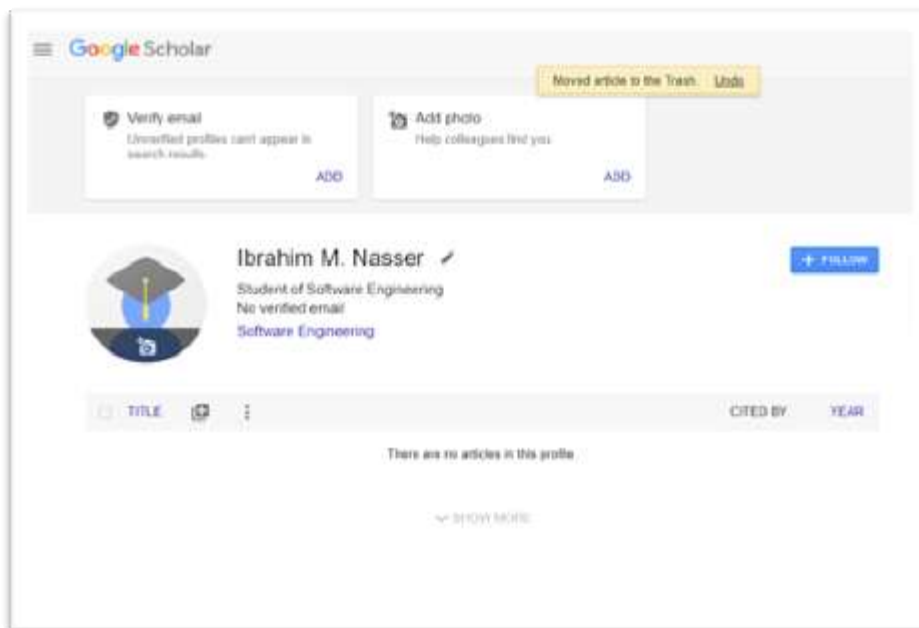


Figure 3: Profile with no articles

Then, a search process applied about the mentioned author (figure 4):



Figure 4: Search process (1).

As you see, he did not appear on the search result although he has a profile and his profile is public (figure 5).

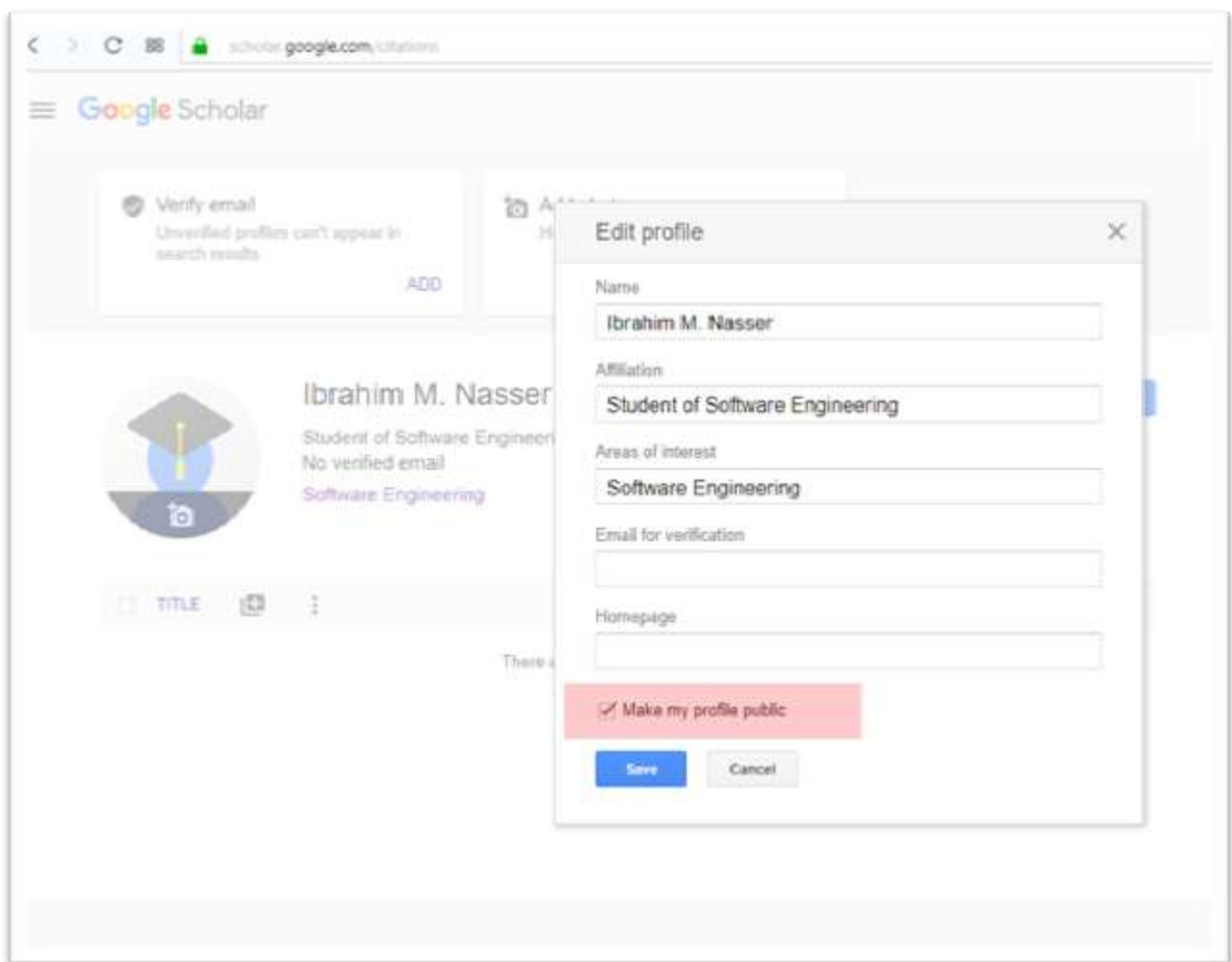


Figure 5: State that the profile is public.

Then he adds an article (that does not belong to him) (figure 6 and 7).

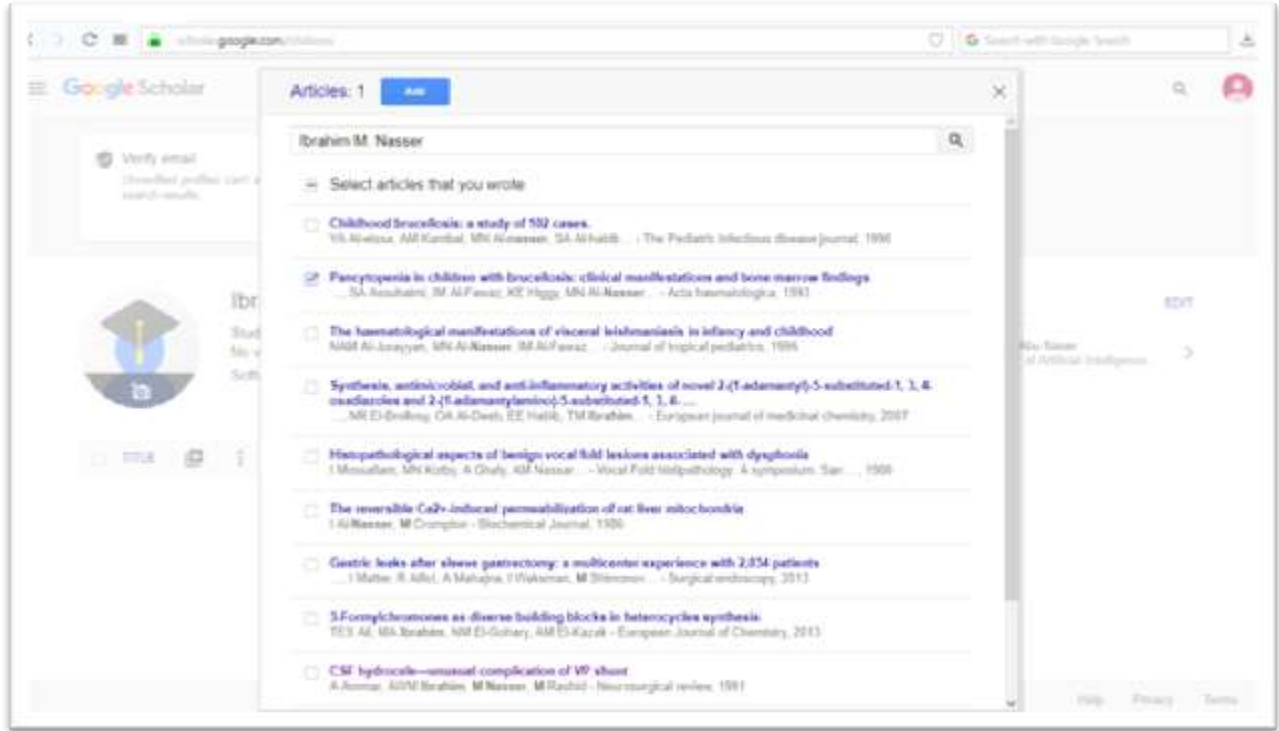


Figure 6: Add articles form.

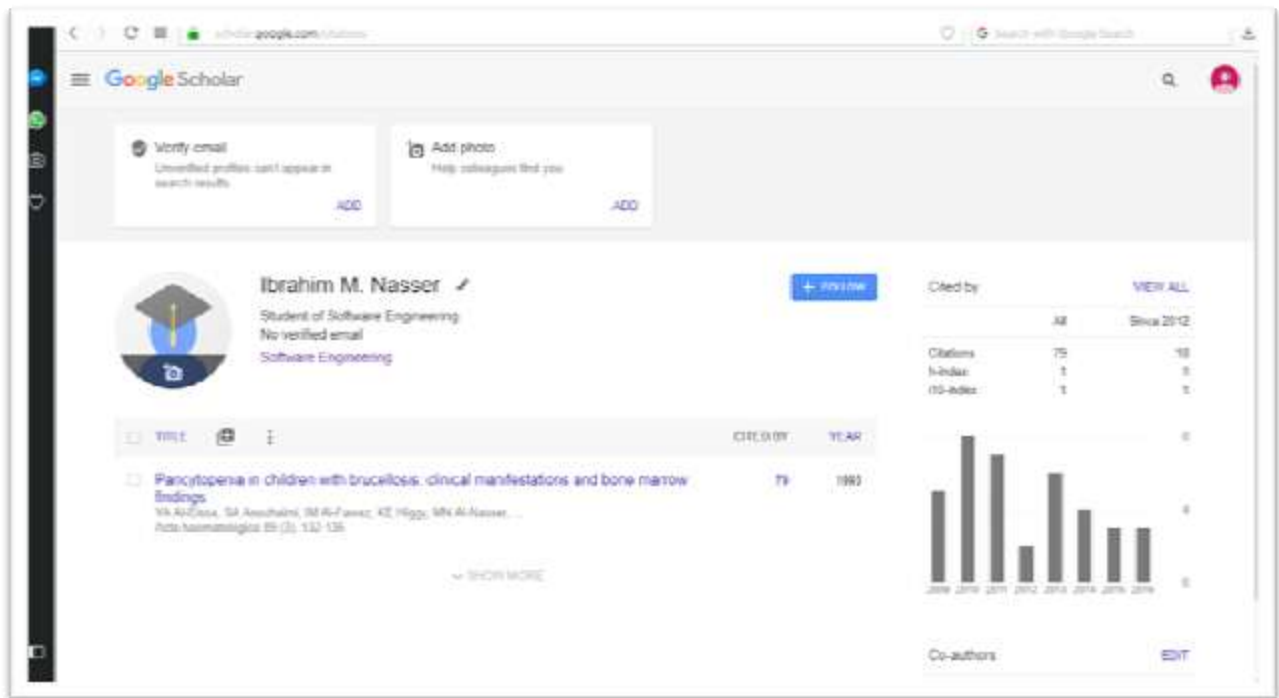


Figure 7: someone else article added.

You can note from the figures that the author was able to add an article that is not for him, and that is a BIG problem which has occurred because of weakness in the matching function that the search engine uses in the search process. And this will cause a related BIG problem that is make G.S. has a non-real statistics for the researcher such as the number of citations will be fake! To verify what we mentioned before, figure (8) shows the search result about the author after he added a random article.

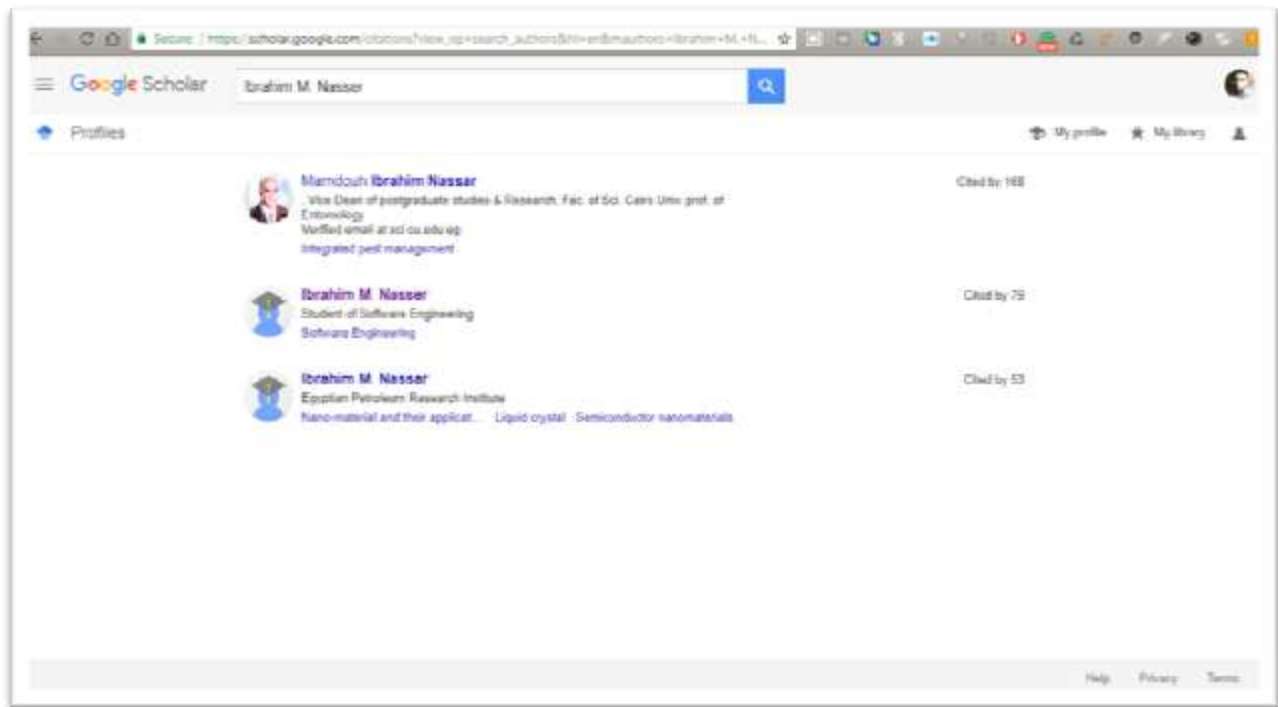


Figure 8: Search process (2).

He is finally appeared.

The **Third** problem we noticed is when Google scholar updates the citation for the scholars, often G.S un-count the citation of two repeated articles by dropping one of the two repeated articles, which is a very good action form G.S.; but sometimes when you investigate this action done by G.S. you will get surprised because the action was mistaken. Here are two articles from a profile that G.S. dropped out one article thinking they are the same ones (As in figure 9).

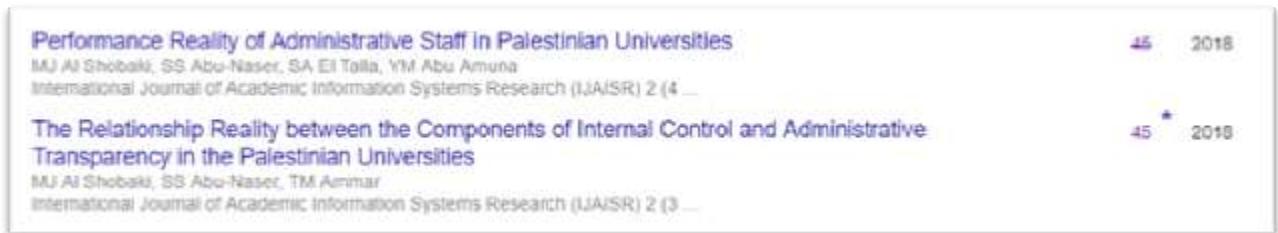


Figure 9: the two articles under investigation

As you see, these two articles are different (not related). When we click on the first article we get a suggestion from G.S. to merge these two articles because they are the same (or the have the same citation) as shown in figure 10. Thus, we think G.S. use Heuristics of Artificial Intelligence to decide if two articles are similar or not. Furthermore, we know heuristics of Artificial Intelligence not guaranteed 100% (i.e. there is a small chance that G.S. to be wrong). Therefore, G.S. should not have dropped one article out just because they have the same citations.

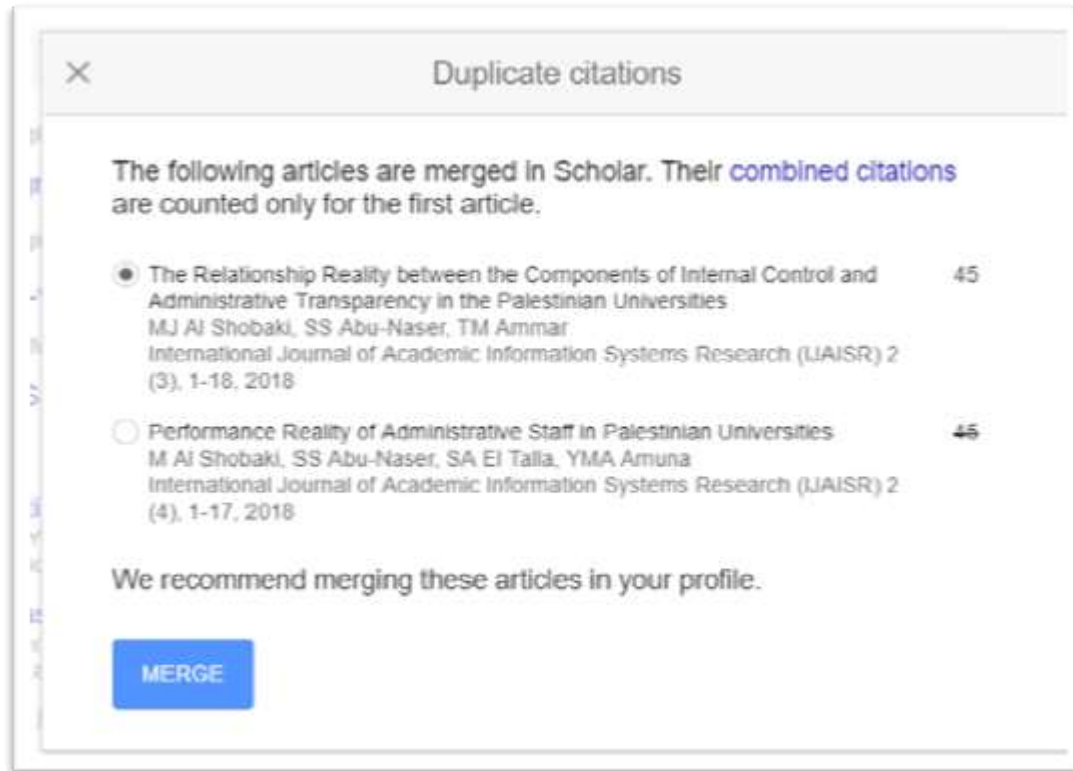


Figure 10: the two articles G.S. claiming they are similar

Those were the **three problems** that we are going to try to give suggestions for solve them in this paper.

3. RESEARCH SCOPE AND LIMITATIONS

We did not make a statistical analysis to make sure that the problem occurs frequently or it is a permanent problem, we just noticed that it occurs every time we try.

4. THE SOLUTION

For the **first issue**, we suggest for the development team to make the search process not restricted by the condition that the profile must have an article at least.

For the **second issue**, the problem can be solved by our suggestion:

- We suggest that when an author wants to make a profile, G.S. should require that the profile name must be same as the name that the author publishes by.
- So, when the (search about articles) window appears after the author pressed (add articles), the author profile name fetched to the text field (already it did), but the text field must be UNABLE to edit.
- Then the matching method must be edited for fetching the articles that JUST has an author name that is COMPLETELY matched with the author's profile name.

For **The Third Issue**, if the citations of any two articles are the same that does not mean the two articles are the same. Thus, an extra condition should be used for checking the similarity of two articles like the name of the article.

REFERENCES

- [1] Google scholar, [Online]. Available: <https://scholar.google.com/intl/en/scholar/about.html>.
- [2] E. Rubaida, "Daffodil International University," [Online]. Available: <https://forum.daffodilvarsity.edu.bd/index.php?topic=42136.0>.
- [3] "ijaridea," [Online]. Available: <https://www.ijaridea.com/Google-Scholar>.