Research Methodology

Nafis Neehal • Lecturer • Department of CSE • DIU
Cell: 01521-220782
Email: nafis.cse@diu.edu.bd

Overview

- Choose research area and topic

- Find out research papers on that topic

- Find out previous works related to that topic

- Find out your research scope from an existing paper

- Read a research paper

*** BONUS ***
How to download a paid research paper for FREE?

Choose Research Area and Topic

- Go to [Google Scholar](#)

- Search several times. Each time with different broad/general keywords. Ex - HCI, Machine Learning, Data Mining etc. Include the word "Review" in the search.

- This search would return any review paper regarding that area or topic which contains all recent state-of-the-art work on that area

- Download the review papers (recently published) of that area

- Read and see which one you feel interest about

Get an Idea on your topic

- Go to Google Scholar

- Download research papers related to your topic based on keywords you liked in the review paper

- Read at least 4-5 papers (recent) on that topic. Make a summarized note of each and every paper and staple it with each paper. Summary should include brief methodology, result accuracy, future scope etc.

Find out previous works related to that work

- Go to Google Scholar

- Download research papers related to your topic based on keywords you liked in the review paper

- Pick out a paper you want to work with

- Go to its **Reference** section (usually at the end of paper)

- Download the papers mentioned in the reference section and read

Find out future scopes

- Go to [Google Scholar](#)

- Download research papers related to your topic based on keywords you liked in the review paper. Pick out a paper you want to work with

- Go to its **Conclusion** section (usually at the end of paper, before reference)

- Future scopes of that paper might be in the conclusion section, or there might be a separate section named "Future Scopes" in the paper.

- You can work with any of the scopes mentioned, implement, and publish.

Reading a paper

- While research topic selection, read only the Abstract section. You can also read the Introduction section too to get a better understanding.

- If the research topic is decided, after that while reading a paper regarding that topic, underline each and every word you don't understand, stop, search that word, understand first, then proceed again. Don't avoid any unknown word.

- Write summary and notes regarding each and every paper you read.

- Keep a list of papers you are reading with author name, publisher, published date etc.

How to know if a research paper is a good one

- Higher number of citation
- Reputed publisher (IEEE, Springer)
- Recent paper is always good to work with

Research Paper Types

- Conference Paper
- Journal Paper

Conference Papers

Conference papers refer to articles that are written with the goal of being accepted to a conference: typically an annual (or biannual) venue with a specific scope where you can present your results to the community, usually as an oral presentation, a poster presentation, or a tabled discussion.

- Everyone submits within a certain deadline, Strict Page Limit (IEEE Conf - 6 Page)
- Review committee (program committee) collaborates to review and discuss papers
- All authors are notified with accept/reject notification at the same time.
- Conference papers are typically published in collections called "proceedings"
- Published by university presses, by professional organizations, by big-name publishers, or simply online.

Top Conferences

Varies upon research field.

International

- CVPR (IEEE)
- ECCV (SPRINGER)
- ICML (IEEE)
- ICCV (IEEE)

And so on

Bangladesh

- WALCOM
- ICCIT
- ICEEE
- NSys

And so on

Journal Papers

Journal papers refer to an article that's published in an issue of the journal. The frequency of issues for different journals varies from one-a-month to once-a-year, or anything in between

- Everyone submits within a certain deadline
- The review process for journals often does not have a fixed deadline,though journals may promise things like "reviews in six weeks"
- Journals typically have a rolling review schedule and reviewers can opt to ask the authors for revisions, meaning that there might be multiple review phases (max 3)
- Journal papers tend to have generous page-limits (or none at all)

Top Journals

Varies upon research field.

- International Journal of Computer Vision (Springer)
- Journal of Information Technology (Springer)
- Cognitive Computation (Springer)
- Neural Networks (Elsevier)

And so on

Conference Metrics

How to know which conference is good or bad?

- Conference Metric
  - Reputable Conference Organizer (IEEE, Springer etc)
  - Citation of that conference's proceedings (CPCI)
  - H-index of that conference (The higher, the better)

Journal Metrics

How to know which journal is good or bad?

- Journal Metric
  - Reputable Publisher (IEEE, Springer etc)
  - Indexed in SCOPUS or any other reputed index
  - High Impact Factor (IF)

Academy Search Engine

- Google Scholar
- Microsoft Academic

Top Publishers in CSE Research Field

- **IEEE**
- **ACM**
- **Springer**
- **Elsevier** / **Science Direct**
- **Oxford Journal**

Top Journal or Conference Search

- [Guide2Research](#) (Journal + Conference)
- [WikiCFP](#) (Conference)

How to download a Paid Research Paper for FREE

- Suppose, this is the link of a research paper you got from google scholar - [LINK](#)
- You go to that link, and find the DOI(Digital Object Identifier) number of that paper, always available in the webpage the paper is published. In this case, DOI number is 10.1109/INISTA.2013.6577656.
- Go to [Sci-Hub](#)
- Insert the DOI number in the search box appeared
- Break Captcha if needed. And, you will get the PDF right away.

THANK YOU