

Workshop

FIRST STEPS IN RESEARCH: RESEARCH PAPER WRITING FOR BEGINNERS



Organized by
AIUB Computer Club (ACC)

FOR WHOM THIS WORKSHOP IS INTENDED TO

1. Just eyeing to their first research project
2. Have some new idea and trying to establish it as a formal research project
3. Have basic idea on research and trying to publish the first research paper or article

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Understanding
Research



Types of Research
Papers and Their
Contents



Writing a
Conference Paper:
Step by Step



Necessary Tools



Publishing the
Conference Paper



Additional Resources
and Further Reading

UNDERSTANDING RESEARCH

What Is research:

- Research is a systematic investigation aimed at discovering new information or understanding existing knowledge. It is fundamental in advancing knowledge across various fields.

Research can be:

- Exploratory (seeking new insights)
- Descriptive (detailing characteristics)
- Explanatory (explaining relationships)
- Applied (solving practical problems)

RESEARCH PAPER

❑ What is a Research Paper?

- ❑ A research paper is a detailed document that presents the results of an in-depth study on a specific topic.
- ❑ It typically includes sections like the introduction, literature review, methodology, results, discussion, and conclusion.
- ❑ Research papers contribute to academic discourse and help disseminate new findings.

RESEARCH PAPER

❑ Importance of Research Paper Publication

- ❑ Publishing research papers is the process of submitting and having your research accepted in academic journals or conference proceedings.
- ❑ Publication enhances your credibility
- ❑ Allows you to contribute to your field.
- ❑ Can improve career prospects. It also helps secure funding and influence policy decisions.

TYPES OF RESEARCH PAPER



Empirical Research Papers: Present original research and data collected through experiments, surveys, or observations.



Review Papers: Summarize and synthesize existing research on a particular topic.



Theoretical Papers: Explore new theories or conceptual frameworks.



Case Studies: Provide detailed analysis of a single case or instance.



Methodological Papers: Discuss new research methods or techniques.

CONTENTS OF A RESEARCH PAPER

Title: Summarizes the main topic and scope of the research.

Abstract: Summary of the research question, methods, results, and conclusions.

Introduction: Introduces the research topic, background, and objectives.

Literature Review: Surveys existing research to contextualize your study.

Methodology: Details the research design, data collection, and analysis methods.

Results: Presents the findings of the research.

Discussion: Interprets the results, discussing implications and limitations.

Conclusion: Summarizes key findings and suggests future research directions.

References: Lists all sources cited in the paper.

WRITING A CONFERENCE PAPER: STEP BY STEP

Topic

Choosing a Topic

- Select a research topic that is interesting, and novel.
- ***Consider the conference theme and audience. A well-chosen topic enhances the chances of acceptance and engagement.**

Related Works

Conducting a Literature Review

- The process of identifying, evaluating, and synthesizing existing research on your topic.
- A thorough literature review highlights gaps in current knowledge and justifies the need for your research.

WRITING A CONFERENCE PAPER: STEP BY STEP

Formulating a Research Question or Hypothesis

- Developing a clear, focused question or hypothesis that your research aims to answer or test.
- A strong research question guides your study and provides a clear focus.

Designing the Methodology

- Planning the research design, including data collection and analysis methods.
- Choose methods that best address your research question while considering ethical standards.

WRITING A CONFERENCE PAPER: STEP BY STEP

Collecting and Analysing Data

- Gathering data systematically and using appropriate tools and techniques to analyse it.
- Ensure data accuracy and reliability. Use statistical software for complex analyses.

Writing the Paper

- Composing each section of the paper with clarity and coherence, following the conference guidelines.
- Focus on presenting your research logically and concisely. Tailor your writing to your audience.

WRITING A
CONFERENCE
PAPER: STEP BY STEP

Revising and Proofreading

- Reviewing and refining the paper to improve quality and correctness.
- Seek feedback from peers and mentors, and check for grammatical and typographical errors.

NECESSARY TOOLS FOR DIFFERENT STEPS

Literature Review

- **Literature Searching:** Google Scholar, PubMed, JSTOR, Research Rabbit
- **Reference manager:** Zotero, EndNote, Mendeley.

Data Collection and Analysis

- **Survey tool (primary data collection):** Qualtrics, SurveyMonkey, Google forms.
- **Data Analysis:** SPSS, R, Python, Tableau, Excel.
- **Secondary Data Sources:** Kaggle, Figshare, Mendeley Data, Github, Google Dataset Search

NECESSARY TOOLS FOR DIFFERENT STEPS

Writing and Editing

- **Writing:** Microsoft Word, Google Docs, Latex.
- **Diagram drawing:** Ms Power point, Adobe illustrator, draw.io, Adobe Photoshop, Canva
- **Editing (language and grammar):** Grammarly, Hemingway App, Instatext, quillbot, pro writing aid.

Collaboration and Feedback

- **Collaborative writing:** Google Docs, Overleaf.
- **Research Network:** ResearchGate
- **Preprint Server:** Arxiv, research square, OSF preprints

PUBLISHING THE CONFERENCE PAPER

Choosing the Right Conference

- Identifying conferences that align with your research topic and field.
 - https://conferences.ieee.org/conferences_events/
 - <https://www.conference2go.com/>
 - <https://conferencemonkey.org/>
- Evaluate the conference's reputation and the relevance of its theme to your work.
 - <http://www.conferenceranks.com/>
 - <https://portal.core.edu.au/conf-ranks/>

Submission Process

- Preparing and submitting your paper according to conference guidelines.
- Pay attention to formatting, submission deadlines, and requirements for abstracts or cover letters.

PUBLISHING THE CONFERENCE PAPER



Indexing Services

- Databases that catalogue published research, increasing visibility and accessibility.
- Common services include Scopus, Web of Science, and Google Scholar. Indexed papers are more widely read and cited.

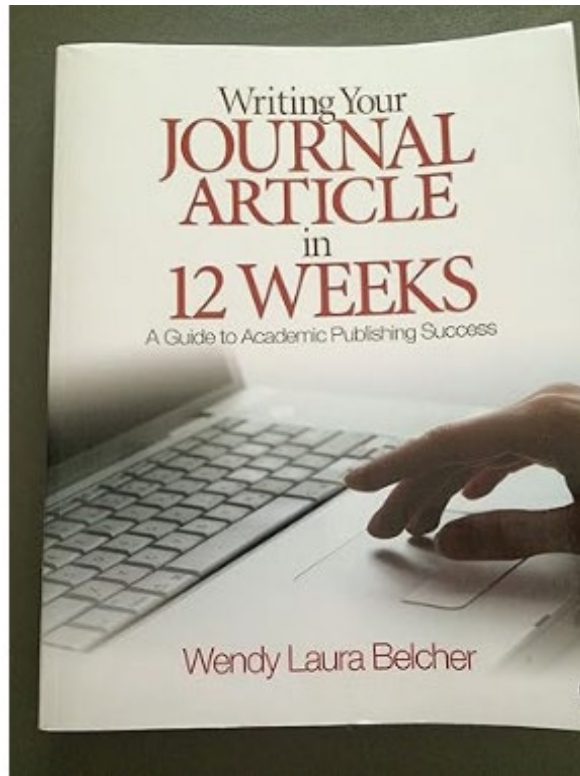
Indexing Metrics

- Measures used to evaluate the impact and quality of research.
- Important metrics include Impact Factor (average citation count per paper), h-index (author's productivity and impact), and citation counts.



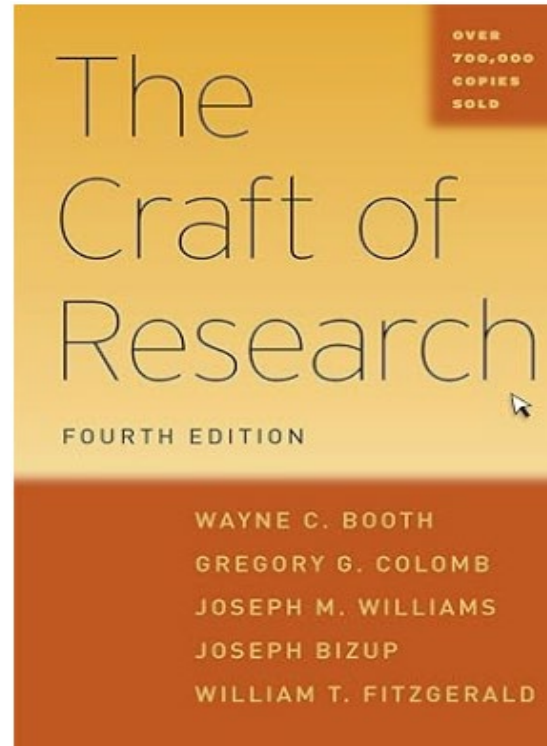
Publishers

- Organizations that publish academic journals, proceedings, and books.
- Reputable publishers include Springer, Elsevier, and IEEE.



Writing Your Journal Article in Twelve Weeks: A Guide to Academic Publishing Success (First Edition)
by Wendy Laura Belcher

The Craft of Research, Fourth Edition
(Chicago Guides to Writing, Editing,
and Publishing) Fourth Edition
by Wayne C. Booth, Gregory G.
Colomb, Joseph M. Williams, Joseph
Bizup, William T. FitzGerald



SELF-READING



Q/A



thank you!

ABOUT THE RESOURCE PERSON



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 [/citations?user=E5Wby_AAAAAJ](https://scholar.google.com/citations?user=E5Wby_AAAAAJ)
 <https://ping543f.github.io>
 [/in/saef](https://www.linkedin.com/in/saef)

Hello, I am Mohammad Saef Ullah Miah. I am an Assistant Professor at the department of Computer Science, AIUB. I have obtained my PhD from Universiti Malaysia Pahang and have completed my Master's and Bachelor's degree from AIUB. I have hands-on experience in Software Development, Machine Learning, Deep Learning, Natural Language Processing, Data Science, Blockchain and project management. Prior to that, I completed my Higher Secondary education from Rajuk Utara Model College and Secondary schooling from Ideal School and College. Apart from my routine work, I enjoy managing open-source projects and exploring new technological advancements and gadgets. My research interests lie in various areas including Machine Learning, Natural Language Processing, Data and Text Mining, Knowledge Management, Material Informatics, and Blockchain based decentralized applications. I am passionate about applying these technologies to solve real-world problems and contribute to the development of innovative solutions.