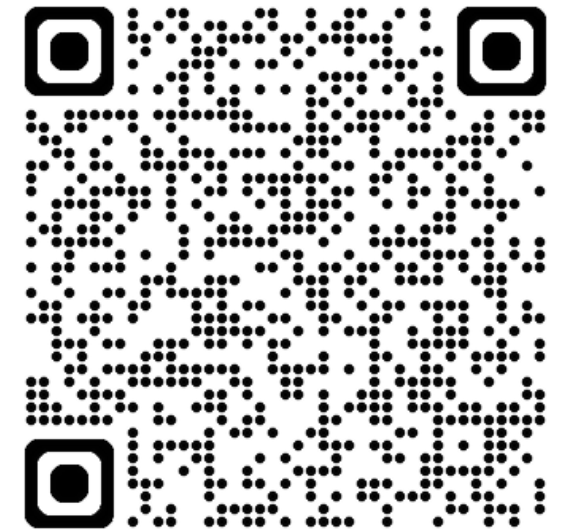




## FACULTY OF ENGINEERING AND TECHNOLOGY UNDERGRADUATE RESEARCH EXPERIENCE (UGRE)

# RESEARCH

● RESEARCH PAPER | PUBLISHING | IEEE BENEFITS





# RE-SEARCH

TO SEARCH OR INVESTIGATE

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- **Searching again.**
- **100% novelty in modern findings is rare.**
- **Reapply existing knowledge.**
- **Discoveries are saturated.**
- **Adding little changes to existing ideas.**



# RESEARCH PAPER

*“Documenting the Research Done”*

- New Insights.
- Built on Past Works.
- Entire Research Flow and Learning.





# WHAT IS IDEA?

- Noticing problems or patterns around you.
- "Why" or "How" about everyday things?
- Perspective of viewing a problem.
- Finding a Research Gap (Effective).





# RESEARCH GAP

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- The "Oops, no one thought of that!" moment in research.
- Dig through papers, tech, magazines, mentor chats, or random "Adi Aathi" moments.
- It's your chance to fix what's missing and make something awesome happen!





# TYPES



## 01 Conference Papers

Short, specific studies presented at conferences, often focused on emerging ideas or preliminary findings.

## 02 Journal Papers

Detailed, peer-reviewed articles with comprehensive research, commonly used for in-depth studies.

## 03 Review Articles

Summarize and analyze existing research on a topic, highlighting trends, gaps, and future directions.

## 04 Technical Reports

In-depth documentation of methods, tools, and technical aspects of research or projects.

## 05 Survey Papers

Review and compare various techniques, tools, or methods in a field, often highlighting strengths and weaknesses.

## 06 Technical Write-ups

Practical documents explaining the implementation, design, or functionality of a system, often used for sharing knowledge within industries or organizations.

# WWW



## Conference Paper

<https://ieeexplore.ieee.org/document/10689810>

## Journal

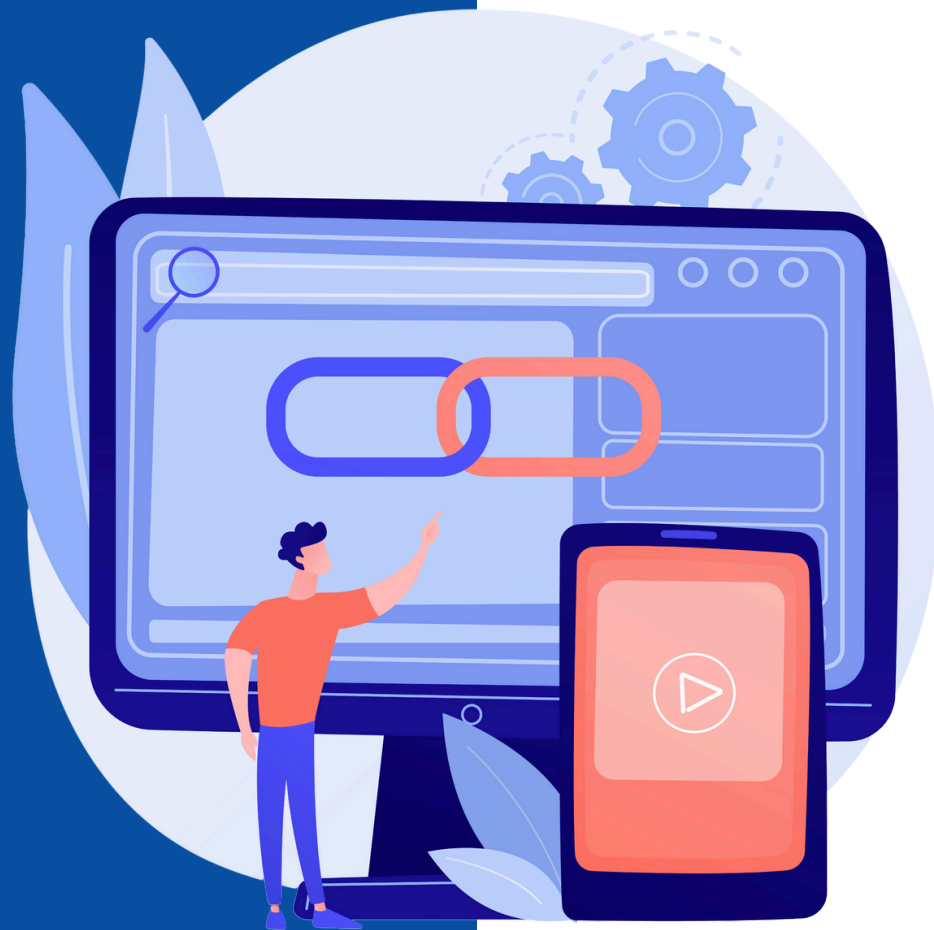
<https://www.sciencedirect.com/science/article/pii/S2590123024018589>

## Review Article

<https://www.cureusjournals.com/articles/191-review-of-various-integrative-approaches-to-cardiovascular-disease-and-covid-19-biomarkers-ai-and-natural-treatments#!/>

## Survey Paper

[https://ieeexplore.ieee.org/abstract/document/6168399?casa\\_token=gUaZwGUmRdAAAAAA:IA3FLnnyB86IbvPPmkk-MeZFka\\_gtQbj4HTrnSg073\\_PD12XmBX5Q6nrw36wQrKJTwbTu5TJ.aaA](https://ieeexplore.ieee.org/abstract/document/6168399?casa_token=gUaZwGUmRdAAAAAA:IA3FLnnyB86IbvPPmkk-MeZFka_gtQbj4HTrnSg073_PD12XmBX5Q6nrw36wQrKJTwbTu5TJ.aaA)





# How to Write a **Research Paper**: A Comprehensive Outline and Guide



## Beginning Sections

### 1: Title of a Research Paper

- Write a concise and informative title that reflects the main focus of the study.

### 2: Author (s)

- Include the names of the author(s) affiliated with their respective institutions or organizations.

### 4: Abstract

- Provide a brief summary (150–300 words) of the study.
- Briefly introduce the topic, research problem, methods, results, and conclusions.
- Highlights key findings and contributions

### 3: Corresponding Author

- Include corresponding author name and email address
- Handles all communication with the journal.
- Manages revisions and co-author approvals.
- Addresses post-publication queries.

### 5: Key Terms

- Use relevant keywords that reflect the content of the paper.

## Main Sections (Main Body)

### 6: Introduction

- Set the background and context for your study.
- Clearly state the research problem and objectives.
- Discuss the significance of your research.
- Outline the organization of the paper.

### 8: Methodology

- Describe your research design and approach.
- Explain data collection methods and tools.
- Discuss data analysis techniques.
- Discuss variables and measures methods.

### 10: Discussion

- Interpret your results in the context of existing literature.
- Compare your findings with previous studies.
- Discuss the implications of the study and any

### 7: Literature Review

- Review previous studies and research related to your topic.
- Establish the theoretical framework
- Identify gaps in the existing literature.
- Develop a conceptual framework if applicable.

### 9: Results

- Present your findings and provide a thorough analysis.
- Use tables, figures, and charts to enhance understanding.
- Summarize key results.

### 11: Conclusion

- Summarize the main findings of your study.
- Reflect on the significance of your research.
- Discuss the contributions to the field.

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## Ending Sections

### 12: References

- List of Citations and Sources Cited in the Paper
- Follow Citation Style Guidelines (e.g., APA, MLA)

### 14: Acknowledgements

- Recognition of individuals, organizations, or funding sources that contributed to the research.

### 16: Conflict of Interest

- Disclosure of any potential conflicts of interest that might influence the research or its interpretation.

### 13: Appendices

- Additional Supporting Information
- Questionnaires, Survey Instruments, etc.

### 15: Author (s) Contributions

- Description of each author's specific contributions to the research and manuscript.





# USE OF AI TOOLS



Gemini



NotebookLM

- A study by Andrew Gray from University College London - at least 1% - in 2023—over 60,000—were written at least partially by AI.
- Research from Stanford University - range between 6.3% and 17.5%, depending on the topic.

# What is IEEE?

**Founders of IEEE: Thomas Alva Edison, Alexander Graham Bell, Nikola Tesla, Elihu Thomson, Edwin J. Houston, Edward Weston.**



- A global professional association - advancing technology for humanity.
- A leading publisher of technical literature in electrical engineering, electronics, and computer science.
- An organization that develops international standards for various technologies.

# How Does IEEE helps in Research?



## IEEE Membership Research Benefits

- Access to Publications
- Networking Opportunities
- Professional Development
- Research Data Sharing
- Publication Support
- Conferences



# IEEE Membership Student Benefits

- IEEE Job Site - more than 4000 Corporates
- Collabratec - Collab on Research and Projects
- Student Grants - Covering Expenses on Travels
- Scholarships
- IEEE.tv - On Demand Contents
- Dataport - Dataset download
- Spectrum - Magazine covering advancements



# THANK YOU

● FOR YOUR ATTENTION



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January 2025