ورشة عمل بعنوان
Scientific Paper Writing Skills

2018
د. ابراهيم السنوسى نصر
Introduction
General Structure of a Paper
References (Listing and Citation)
Select a Paper Title
Introduction Writing
Main Body Writing: Description of your work
Writing about your Experiments
Writing your Conclusions
Abstract Writing
General rules before you start

A research cycle:
- Paper reading
- Idea generation
- Experimental results
- Paper writing
- Successful publication.

Strategic arrangement:
(i) Experiment design (test data, benchmark)
(ii) Your selling points
(iii) Browsing your mathematics handbook.
General Structure of a Scientific Paper

- Title
- Introduction
- Description of work done and methods
- Results and Discussion
- Conclusions and Recommendations
- References and Bibliography
- Appendices
# General Structure of a Scientific Paper

<table>
<thead>
<tr>
<th>Section</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Clearly describes contents</td>
</tr>
<tr>
<td>Authors</td>
<td>Ensures recognition for the writer(s)</td>
</tr>
<tr>
<td>Abstract</td>
<td>Describes what was done</td>
</tr>
<tr>
<td>Key Words (some journals)</td>
<td>Ensures the article is correctly identified in abstracting and indexing services</td>
</tr>
<tr>
<td>Introduction</td>
<td>Explains the problem</td>
</tr>
<tr>
<td>Methods</td>
<td>Explains how the data were collected</td>
</tr>
<tr>
<td>Results</td>
<td>Describes what was discovered</td>
</tr>
<tr>
<td>Discussion</td>
<td>Discusses the implications of the findings</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>Ensures those who helped in the research are recognized</td>
</tr>
<tr>
<td>References</td>
<td>Ensures previously published work is recognized</td>
</tr>
<tr>
<td>Appendices (some journals)</td>
<td>Provides supplemental data for the expert reader</td>
</tr>
</tbody>
</table>
References
(Listing and Citation)

- **Listing:**

- ✔ Journal paper:

References
(Listing and Citation)

✓ Conference paper:
References
(Listing and Citation)

✓ Book:

❑ Citation:
◆ Hoey [28] states that ………
◆ Client/ server environments [28] are important ………
◆ Jain (1988) suggests that ………

The best example is given in the paper your read during your interactive reading!
Clearly describes contents of a paper.

TO Select a Title:

- Be concise, specific and accurate;
- Highlight your contribution, discovery and achievements.
- Appealing to readers as much as possible;
- Avoid generic title.
Introduction Writing

 ✓ Clearly state the:
  • Problem being investigated
  • Background that explains the problem
  • Reasons for conducting the research
  • Identify the questions you are answering

 ✓ Introduce the current status of the area;

 ✓ Summary of your literature survey on existing work, solutions, and methodologies (citation of references);
Introduction Writing

- Analyses their weakness to provide justification for your work.
- Summary of your contribution, highlighting the novelty and originality of your work (State how your work differs from published work).
Summary of the structure of your paper.

Example:
The rest of the paper is organized into four sections, where section 2 describes abrupt cut detection, section 3 describes gradual transition detection, and section 4 reports experimental results and evaluations of the proposed algorithm in comparison with all participating teams for TRECKVID2007. Finally, section 5 provides conclusion remarks to finish this paper.
Introduction Writing

Papers Examples

Title, introduction writing, references, summary of a paper structure.
Main Body writing:
Description of your work

- Text description;
- Mathematical description;
- Diagram description and illustration;
- A full working example;
- Pseudo-code or flow-chart description;
- Integrated approach.
Important Principle in Describing Your Work:

Not Only tell **WHAT** you have done, but also **WHY**?
Techniques of Telling “WHY”:

- Reveal and analyze the weakness of existing method;
- Justify your solution via theoretical explanation;
- Highlight the advantages and strength of your choice.
Description of your work

Papers Examples

Description of your work
Writing about your Experiments

- Experiments Design:
  i. Test data set;
  ii. Benchmarking selection;
  iii. Overall design.

- Presentation of experimental results:
  i. Tables;
  ii. Graphs;
  iii. Samples.
Writing about your Experiments

- Analysis of the experimental results:
  i. Comparison of advantages and disadvantages;
  ii. Highlight of strength and weakness;
  iii. Justification of your strength as well as weakness.
Writing about your Experiments

Papers Examples

Results and Discussion
Writing your Conclusions

- Summaries what you discover after the work;
- Highlight your contribution;
- Identify your future work to attract attention and follow-up work from the community.
Abstract Writing

- The reader can decide whether or not to read the whole article.
  - Highlight the background of your work (why);
  - Highlight the weakness of existing solutions;
  - Highlight your methodologies (How);
  - Highlight your results, discoveries, or achievements (What)
  - Support your conclusions.
Conclusion & Abstract Examples

Papers Examples
شكرا على حسن الاستماع