

# **Tips on Writing Papers**

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# Some Obvious Recommendations

- Make sure you have something to say
- Try to make the paper interesting
- Tailor the paper to the expected audience
- Organize, organize, and organize

# Kinds of Papers

- Technical report
- Proposal
- Survey
- Position paper
- Research paper

# Who Should Coauthor the Paper?

- Choose coauthors who:
  - Are good writers
  - Are the major participants in the work
  - Will bring attention to the paper
- The coauthors should not include anyone who did not participate in the work
  - Examples: Laboratory directors and supervisors

# How Should the Coauthors be Ordered?

- Two main approaches:
  - Order of importance  
(Common in science and engineering)
  - Alphabetical order  
(Common in computer science and mathematics)
- The relative contributions of the coauthors can be described in the text
- People who made minor contributions to the paper can be mentioned in an acknowledgments section

# Components of a Paper

- Title page
- Abstract
- Introduction
- MAIN BODY
- Conclusion
- Acknowledgments
- Footnotes or endnotes (optional)
- Appendices (optional)
- References

# Abstract

- Microversion of the paper
- Serves as a gateway to your paper
- Should be very widely understandable
- One short, self-contained paragraph is best
  - Avoid special fonts, symbols, and notation
  - Avoid references

# Introduction

- State the purpose of the paper
- Present the background needed for the paper
- Explain what knowledge will be assumed



# Conclusion

- Different possible forms:
  - Summary
  - Set of conclusions
  - Set of recommendations
- Use the paper as a springboard for the conclusion

# References

- Be careful to reference the work of others
- List references alphabetically
- Avoid inaccessible and unpublished references
- Be careful using Web references
  - Most URLs disappear in time
  - Much of the information on the Web is unreliable
- Examine all the references you list

# Components of a Proposal

- Title
- Objective
  - What you want to do
- Approach
  - How you will do it
- Impact
  - What benefits you expect will result
- Budget

# Some General Recommendations

- Be concise
- Be conservative in approach and format
- Make the final product look attractive
- Use good English appropriate for your audience
  - Make sure there are no spelling or grammar mistakes

# Text

- Use a standard font for the main text
  - Use other fonts sparingly
  - Avoid using colored text
- A typical line should contain 10–15 words
- Use italics instead of underlining

# Linguistic Distinctions

Be careful when distinguishing between:

- Expressions and their values  
356 (string) vs. 356 (number)
- Expressions with and without syntactic variables  
 $x < 2$  (simple expression) vs.  $A < B$  (schema)
- Inputted text and effect  
 $(17 + 31)$  vs.  $\rightarrow 48$
- Unisymbol variables and multisymbol variables  
`val` (name) vs. *val* (3 variables)

# Writing Approaches

- Incremental development
  - Write pieces of the paper as the work is being done
- Successive refinement
  - First write an outline
  - Then expand the outline into a full paper
- Spiral approach
  - Write sections in the order 1, 2, 1, 2, 3, 1, 2, 3, 4, ...
- Seed approach
  - First write the most important or best understood part of the paper
  - Then expand this part into a full paper

# Final Tip

- Choose a simple, proven format for your paper
- But put most of your creativity into the content of your paper, not into the format