

Writing for Computer Science

Chapter 4: Hypotheses, Questions, and Evidence

Chapter 5: Writing a Paper

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- 2 Paper Writing

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Stages of a Research Program

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Question

What is a good (or bad) science?

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- Has the work been critically questioned? Have you satisfied yourself that it is sound science?

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- What compromises or simplifications are inherent in your choice of measure?

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Checklist: Evidence and Measurement II

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- What is the argument that will link the evidence to the hypothesis?
- To what extent will positive results persuasively confirm the hypothesis? Will negative results disprove it?
- What are the likely weaknesses or limitations to your approach?

① Hypothesis, Questions and Evidence

② Paper Writing

The Scope of a Paper I

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- Are the other outcomes independent enough to be published separately later on? Are they interesting enough to justify their being included?
- What is the key background work that has to be discussed?

The Scope of a Paper II

- Does it make sense to explain the new algorithms first, followed by a description of the previous algorithms in terms of how they differ from the new work? Or is the contribution of the new work more obvious if the old approaches are described first, to set the context?

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- Who is the readership? For example, are you writing for specialists in your area, your examiners, or a general computer science audience?

Telling a Story

Charles Darwin

“I used to think about my sentences before writing them down; but I have found that it saves time to scribble in a vile hand whole pages as quickly as I possibly can. Sentences thus scribbled down are often better ones than I could have written deliberately.”

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- Justify the theory, by methods such as proof or experiment

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- ④ An outline of the proposed new solution.
- ⑤ A summary of how the solution was evaluated and what the outcomes of the evaluation were.

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- Incomprehensibility
- Ugliness
- Ignorance

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Have you identified which aspect of the work is of greatest impact, or of greatest interest?

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- Is the scope of the work well defined?
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Have you identified which aspect of the work is of greatest impact, or of greatest interest?
- What would success in the project look like? What would failure look like? Can you anticipate the form of the outcomes in either case?

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- Are the roles of the participants clear? What are your responsibilities? What activities will the others undertake?