

Research Methods in computer science

Spring 2020

Lecture 6

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Agenda

Research Paper Anatomy

Paper Types

Assignment

Anatomy of a Research Paper

Abstract

Introduction

Related Work

Design and Implementation

Evaluation

Conclusion

Some of the contents in the next few slides from Jennifer Widom's notes on Writing Technical Papers.

Related Work

You want to give a sense of the old and new work in this area.

Where to look for these?

Organized is better than not organized.

Important: Show how your work is related to the body of work you are describing in related work section.

Related work variations

Merged with Introduction

Inter-mingled with relevant sections

Placement of Related Work

The Body of the paper

Depending on the area of work may describe the proposed algorithm, proofs, systems, implementations

Evaluation

Description of experiments and metrics

Results of experiments

Implications of those results

More applicable to the applied areas of computer science.

Conclusions

Not the same as abstract

Short summary of what you did in the project and the implications of the results

Can include lessons learnt and future directions

Quick Exercise

Look through three research papers
Identify the sections we discussed so far
Share with the class any variations

Slightly different take from other disciplines

Anatomy of a Science Paper

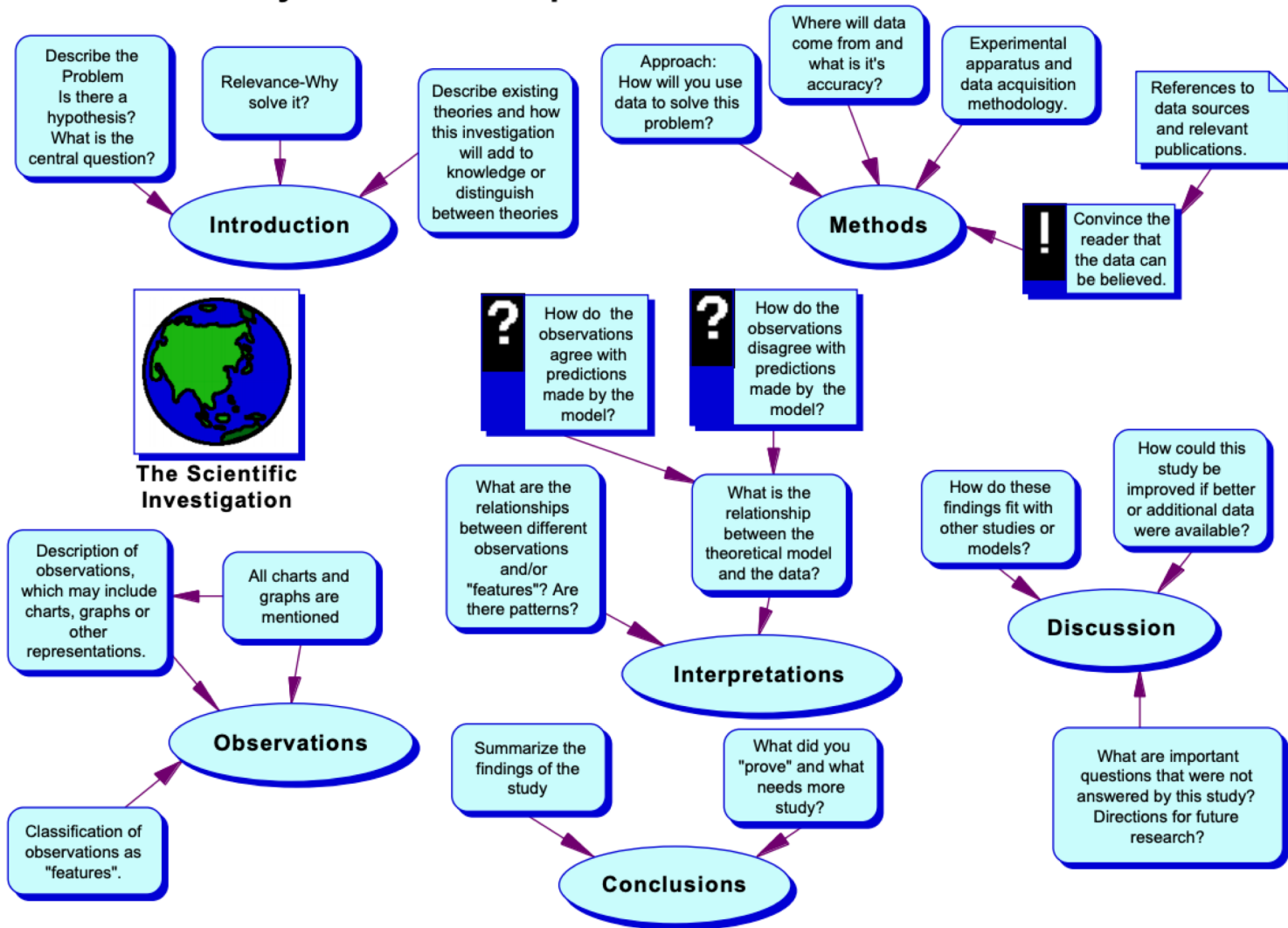


Figure 3.1. This diagram shows the headings that must be used for this science paper. Please pay careful attention to the boxes with arrows pointing at each elliptical heading box. These boxes are reminders of the content that belongs with each heading.

Types of Papers (mechanical)

Technical Reports

- Project description

- Research paper

Conference

Journal

Magazine

Find out what type your group
and community writes.

Which papers are more important?

Conference

Journal

Magazine

What makes a paper more important than others?

Types of Papers (purpose)

Research Paper

Survey Paper

Tutorial

Technical Report

- E.g., NIST, Other Orgs

White Paper

Vision Paper

Challenge Paper

Publications – Looking Ahead

Blogs?

Facebook?

Twitter?

.....

HW3

Pick ten papers related to your research

Summarize each paper in 2-3 sentences

Why is it important?

Contributions? Strengths? Weaknesses?

Improve related work organization for one of the papers.