

# What is a Survey Paper??

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# A survey paper is...

"a paper that **summarizes** and **organizes** recent research results in a **novel way** that integrates and **adds understanding** to work in the field. A survey article assumes a general knowledge of the area; it emphasizes the classification of the existing literature, developing a perspective on the area, and **evaluating trends**."

As described by ACM Computing Surveys

# Goals of a Survey

- Provide the reader with a view of existing work that is **well organized** and **comprehensive**
  - Not all details must be included; which ones **should/shouldn't**?
  - Make sure to cover all **relevant** material completely
  - **Logical structure** of organization
  - **State-of-the-art view**

# Your survey paper should ...

- Summarize the research in at least **8 papers** on a particular topic
- Give a **coherent argument** as to how you selected those particular papers for your survey
  - Do they describe the **latest development** in the field/topic of your survey?
  - Do they describe **pioneer works** in this field?
  - Are they written by the **best experts** in the field?
  - Are they published in the **best journals** in the field?

# Your survey paper should ...

- Include your **own commentary** on the significance of the approach and the solutions presented in each paper
- Provide a **critical assessment** of the work that has been done
  - Identify any **limitations** in the work
- Include a discussion on **future research directions**

# REMEMBER

- All **ideas, paraphrases** of **other people's words** must be correctly attributed in the body of the paper and in the references
- In certain circumstances, you may directly quote **very short sections** of other work. Such quotes must be explicit (in quotation marks), but remember that it is usually preferable to **paraphrase**.

# How To Find Articles

- Search various digital libraries
  - [IEEE](#)
  - [ACM](#)
  - [Science Direct](#)
  - [Google Scholar](#)
- Try to [identify research groups/faculty](#) in the area
  - Dig into their work and pointers

# How To Pick Articles – In General

- When picking papers to read try to:
  - Pick a **recent survey** of the field so you can quickly gain an overview,
  - Pick a source that you can easily understand – book chapters often give more easily understandable materials, although they may not be as up-to-date as papers,
  - Pick papers that are **related to each other** in some ways and/or that are in the same field so that you can create a **meaningful survey**,



# How To Pick Articles – In General

- Favour papers from **well-known journals** and conferences,
- Favour “first” or “foundational” papers in the field,
- Favour more recent papers.

# Article Structure

- It should **not** be just a concatenation of paper reviews
- A typical structure of a paper includes:
  - Title
  - Abstract
  - Introduction
  - Body of paper
  - Conclusion/Future Work
  - References

# Article Structure

- Introduction
  - Importance and **significance** of the topic
  - Discuss the **background** and target audience
  - Summarize the surveyed research area and explain why the surveyed area has been studied
  - Summarize the classification scheme you used to do the survey
  - Summarize the surveyed techniques with the above classification scheme

# Article Structure

- Body of paper
  - Identify the **trends** in the surveyed area. Give evidence for your decision.
  - **Critically analyse** the contributions made in the papers you have surveyed. In particular, highlight their strengths and weaknesses.
  - Identify the **unresolved problems/difficulties**, and future research issues

# Article Structure

- Conclusions/Future work
  - Summarize the conclusions of your survey
  - A really good survey paper will include here some insights into the next “hot topics” in the field
- References
  - List all the citations referenced in your paper

# Figures

- Can be taken from papers as long as appropriate credit is given
  - “Figure taken from Doe (2015)”.
- Draw your own figures to show classification or structure of the survey
- Use tables to organize comparisons between applications/systems/etc

# What Now?

- Start exploring **current research** to find a topic of interest.
- By week 4, you should have chosen your topic and prepared a very brief discussion (**~5 minutes**, probably based on a single paper) explaining why you feel it is interesting. We will provide in-class feedback.
- Next week, Liz Peet (subject librarian from MMU library services) will give a presentation on library skills (research, referencing, etc).
- You are strongly encouraged to have a **significant draft** completed by 25<sup>th</sup> October. I will provide formative feedback on these drafts during the seminar session .