Reading Papers for a Seminar

Thomas Gross

Outline

- General comments
- 5 Steps
  - Overview
  - Skim
  - Read
  - Interpret
  - Summarize
- Prepare presentation
  - (Next week)

Seminar talks

- **Practice scientific presentation**
  - **Based on primary literature**
    - » **Articles in journals, papers at conferences**
    - » **Find additional (relevant) material**
  - **Engage in discussion with audience**
- **Practice scientific exchange**
  - **Learn to ask questions to clarify misunderstandings**
  - **Learn to ask questions to fill in missing knowledge**
  - **Reflect on contents**
    - » **Do you have supporting evidence?**
    - » **Do you have *conflicting* evidence?**

Seminar talks

- You talk about some else's work
  - Not advocate but investigative reporter
- Pick a topic/paper
  - Selection by instructor
  - Range of topics
  - Personal preferences, background

- Understand the topic/paper
- Plan presentation

Seminar talks

- You talk about some else's work
  - Not advocate but investigative reporter
- Pick a topic/paper
  - Selection by instructor
  - Range of topics
  - Personal preferences, background
  - Short paper vs long(er) paper
- Understand the topic/paper
- Plan presentation

Kinds of papers

- **Reviewed vs. "informal" paper**
- **Reviewed: screened by a group of experts**
  - **No guarantee that paper is correct**
  - **Experts are sometimes graduate students (in computer science)**
  - **Either presented at event (conference, workshop) *or* appeared in journal/book**
- **Informal: anything else**
  - **Sometimes presented at event (conference, workshop)**
  - **Sometimes published in journal**
  - **Sometimes self-published ("technical report", technical note)**
  - **Sometimes uploaded to forum/server (e.g, arXiv)**

PoP

- **Publish or perish**
  - **Academics need to publish to get known**
- **Industry experts want to publish to get known, to recruit, to establish precedence**

- **Reviewed vs. informal**

PoP

- **Publish or perish**
  - **Academics need to publish to get known**
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- **Reviewed vs. informal**
  - **Reviewed better chance to be noticed**
  - **But there are exceptions …**

- **First informal publication, then reviewed publication**

Beware: predatory journals

- **(Almost) Nobody works for free**
- **Journals are published by**
  - **Educational organizations (universities, academies)**
  - **For-owner-profit companies**

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Understand a paper

- **Multiple steps**
- **Step 0: what is this paper about**

Step 0: Overview

- Read abstract
- What does the paper present
  - Technique
  - Algorithm
  - System
  - Tool
  - Retrospective

Understand a paper

- **Multiple steps**
- **Step 0: what is this paper about**
- **Step 1: Skim**

Step 1: Skim

- Get the big picture
- Read paper but skip complicated formulae
- Look at the graphs (if present)
- Identify terms you don't know
- Do not take detailed notes, focus on flow

Understand a paper

- **Multiple steps**
- **Step 0: what is this paper about**
- **Step 1: Skim**
- **Step 2: Read carefully**

Step 2: Read

- **What is the message of the paper?**

Structure of many papers

- **Introduction**
  - **What is interesting/relevant?**
- **Problem statement**
  - **What problem is solved by the authors**
- **Solution to problem**
  - **Algorithm**
  - **Software system**
  - **Hardware/software system**
- **Evaluation**
- ***Related work***
  - **Previous (partial) (non) solutions**
  - **Other problems that might be confused with this problem**
- **Conclusions**
  - **Implications**

Contents of the paper

- What is the paper about
- Write a 1-3 sentence summary of paper

- What problem(s) do(es) the paper attempt to solve/address

- How does the paper support its claims?
  - Simulation
  - Measurement
  - Theory/Reasoning
  - …

Understand a paper

- **Multiple steps**
- **Step 0: what is this paper about**
- **Step 1: Skim**
- **Step 2: Read carefully**
- **Step 3: Interpret**

Step 3: Interpret

- **Examine graphs, tables, algorithms carefully**
- **Look for key issues, findings**
- **Take notes**

Assessment of paper

- Do you believe the author(s)?
  - Rational arguments in the paper
  - Do the data support the claims
- What are the key ideas/findings
- Your talk: presentation of paprer + reflection
  - Contents of paper (not all – key ideas)
  - Critique
  - Assessment
    - » Important idea? Why?
    - » Incremental work?
    - » Bogus?

Understand a paper

- Multiple steps
- Step 0: what is this paper about
- Step 1: Skim
- Step 2: Read carefully
- Step 3: Interpret
- Step 4: Summarize
  - Do you have all the information you need?

Understand a paper

- Do you need background info??
  - Get it
- **Read paper again**
  - **Carefully**
  - **Mark/record parts that you don't understand**
- **Get help on parts you don't understand**
  - **More background material**
  - **Search internet**
  - **Ask professor, assistant (or friends)**

Concluding remarks

- **Pick a paper on a topic you find interesting**
  - **You can always get more information**
- **Read paper**
- **Prepare presentation**