Publishing Your Research

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Publishing Your Research

- Part 1 -- The Publishing Process
- Part 2 -- The Writing Process

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Goal of Publishing

Benefits

 Advance the state of the art

 Public evidence of your abilities

Quality v. quantity

 Quality! Quantity varies by area

 Citations matter as career progresses

How to generate citations

 High quality work

 Highly visible outlets

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Avenues for Publication

Primary outlets
>   Conference Papers
>   Journal Papers

Additional
>   Workshop Abstracts
>   Doctoral consortium Abstracts/Posters
>   Conference/Workshop Posters

Other outlets
>   Software, patents, books, data repositories
>   Social media: blogs, Twitter, YouTube

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Focus*: Conferences

Conference status is different in CS

- Primary outlet for CS (selective)

- Place to meet for other disciplines (not selective)

- * But be sure to understand what is primary in your area of CS (especially if doing interdisciplinary research)

Not all conferences are equivalent

- Know top-tier conferences in your research area

- Acceptance rates/citations

- Sponsoring organizations

Conference Process

Uniform submission date

  Typically once/year

  May have separate abstract deadline

Program committee

  May be hierarchical, may have non-committee reviewers

Decisions

  May be two-pass

Details vary by area and year

  Read the CFP carefully!!!

  Talk to grad cohort speakers from your area

Journal Process

No fixed deadlines

 Have more space and time

 No travel or registration expenses

 Can be hard to finish without a deadline

 Review cycle often much slower

Journal Process

Outcomes

Accept

rare on first submission

Minor revision

may be "probably accept"

Major revision

good to be attentive to suggestions; may have just one iteration to address them

Reject

may differentiate between "resubmit as new" and "hopeless"

Review Process

Single-blind, double-blind, etc.

Reviewer selection

    Drawn from citations, contacts, lit search

    Uses keywords or categories (beware of choosing too broadly)

    Experts in the field

    No conflict of interests

Meta-review

What Reviewers Look For

Clear contribution

Solid evidence

Good writing makes a difference!

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Structure of a Paper

Title and abstract

Authors

Introduction

(Previous Work, System Overview, Proofs, Materials and Methods, Experimental Procedure)

Conclusion

READ READ READ the papers in your area and study the common structure

Title and Abstract

What makes a good title and abstract?

Exercise 1a

Feature Selection via Probabilistic Outputs

Data sets used to perform classification often contain redundant and irrelevant information. For these reasons, a great deal of work has been dedicated to the task of feature selection This paper explores probabilistic feature selection techniques. We begin by reviewing feature selection methods. We then present two feature-scoring criteria and a theoretical analysis. We then outline predictions for the relative performance of the scores and give preliminary empirical results.

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Exercise 1b

Feature Selection via Probabilistic Outputs

This paper investigates two feature-scoring criteria that make use of estimated class probabilities: one method proposed by Shen et al. (2008) and a complementary approach proposed below. We develop a theoretical framework to analyze each criterion and show that both estimate the spread (across all values of a given feature) of the probability that an example belongs to the positive class. Based on our analysis, we predict when each scoring technique will be advantageous over the other and give empirical results validating those predictions.

Title and Abstract

First impression of your paper

  Used to decide to read or review it

  Include terms for searching and scanning

Should be a clear, complete summary

  Include motivation, findings

  Could substitute for reading the paper

Avoid acronyms, citations, formatting

Authors

Be explicit and generous

Author responsibilities

    Contributed to the work

    Verified the work

    Willing and able to present

Author ordering

    By contribution or convention

    Importance of position

    Early clarity to avoid conflicts

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Introduction

Make the problem and its importance clear

Make your contributions clear

Good to have a visual illustration if possible

Do not include cute but unnecessary detail

End with a description of paper structure

Related Work

Opportunity to highlight contribution
 Describe existing research
 Relate your research to it
Build from versus *take down*
 Reviewers drawn from related authors
 Avoid being defensive
Writing the Related Work section
 Be concise, focus on key papers
 Remember, people did this work!
 DON'T USE " in [2] a model is proposed …"
 INSTEAD "Smith et al. [2] proposed a model…"

Methodology

Goal: Allow an informed expert to reproduce your research

Describe the exact approach taken

Acknowledge limitations

- Explain why they exist
- Frame them as positive when possible

Results

Clearly explain what you observed

Pull content out of text when possible

    Avoid paragraphs of numbers

    Tables and figures should stand alone

Describe figures, tables, quotations

    Do not assume reader is looking at them while reading the text

Help the reader interpret the results

Conclusion

Clearly summarize the contributions

Be strong and positive

When submitted, acknowledgments usually omitted for anonymity; final version should be sure to acknowledge all funding support and assistance from individuals who aren't authors.

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Exercise 2

What can you do to make your writing better?

How can you be more successful in publishing your work?

Read, read, read

Read papers published in highly-selective venues:
    Understand typical paper structure(s)
    Understand how much/little detail to give

Ask your collaborators/advisors for drafts of papers
that were rejected; identify their structural problems

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Successful Co-Authorship ➜ Successful Publication

Externalize thinking

 Get your ideas onto paper

 Share outlines and drafts

Be respectful of time

 Create a schedule

 Share it

 Keep to it

Speak up

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Related Work

Take notes

    Build your .bib file as you do your reading

    Write a short summary

    If close to your work, how does it differ?

Methodology

Ex. For empirical work, keep a "lab notebook"
    Platform for experiments
    Algorithms implemented/software used
    Parameter settings
    Assumptions
    Etc.

But don't fall into the trap of writing a Methodology section as a "journey of discovery".

Develop Good Habits

Take good notes as you work

Start writing early

Allow time to iterate

Submitting Your Paper

Create a finished paper

    Ensure proper layout

    Copyedit

Anonymize appropriately (look at CFP)

Submit on time

    Usually can submit early and modify

Read the CFP carefully

    Ask the PC Chair if you have questions

Author Responsibilities

Do NOT plagiarize

  Obtain permission for use of material

  Cite and acknowledge work

  Be explicit about reuse of previous work

No dual submissions

Support the reviewing process

  Submit work you are proud of

  Respond to the reviews you receive

  Provide thoughtful reviews

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Dealing with Reviews

Separate out the emotional response

Write a rebuttal or make edits later

Understand the reviews

Identify important issues

Get to the root cause of complaints

Issues you already address were unclear

Respond to the reviews

Reviewers will see the paper again

Dealing with Rejection

Great papers sometimes get rejected
   There is variation and error in process
   New or bridge topics particularly at risk

Keep trying
   Good target: Three submissions

Consider a venue change

   Match content to the best audience

Address reviewer comments

   Papers can always be improved

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Publishing Your Research

Prepare the camera-ready version

    Goal is a strong paper, not just an accepted paper

    Address reviewer comments

    Work well with your shepherd (great recommendation letter opportunity!)

Share the paper with others

    Link to it, blog about it, Tweet about it

    Present the work

    Leave the details in the paper

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Resources

Paper writing advice

An Evaluation of the Ninth SOSP Submissions or How (and How Not) to Write a Good Systems Paper (Levin & Redell)

- http://john.regehr.org/reading_list/levin_sosp.html

Writing Technical Articles (Columbia CS Department)

- http://www.cs.columbia.edu/~hgs/etc/writing-style.html

The Elements of Style (Strunk & White)

ACM Policy

Plagiarism

- http://www.acm.org/publications/policies/plagiarism_policy
- Note in particular the definition of "self-plagiarism"

Making your paper public

- ACM Author-izer service (with interesting FAQ)
- http://www.acm.org/publications/acm-author-izer-service

Example Timeline for a Conference: SIGGRAPH2013

Pre-deadline: fill out forms Jan 17
Deadline: MD5 for all content Jan 18
Upload deadline: Jan 19
Committee assignments: ~ Jan 23
Tertiary assignments: ~Jan 30
Reviews available: Mar 11
Rebuttals due: Mar 14
Committee meeting: Mar 20-23
Preliminary decisions: Mar 27
Revisions due: Apr 12
Final Decisions: Apr 19
Publication date: July 7
Presentations: July 21-25

Conference Ethics

No dual submissions

    When in doubt if submissions will be perceived as "dual" : ASK!!!

Commitment to present

    This is a serious financial commitment

Journal Metrics

Popular: ISI Journal Impact Factor

Used across all disciplines, computed by a company

THOMSON REUTERS

The journal impact factor for year N is the total number of citations in year N to articles published in years N-1 and N-2 divided by the number of articles in N-1 and N-2.

H-factors

H factor for individuals:

"A scientist has index h if h of his/her N papers have at least h citations each, and the other (N-h) papers have no more than h citations each." J.E. Hirsch

H5-index for publications:

"h5-index is the h-index for articles published in the last 5 complete years. It is the largest number h such that h articles published in 2008-2012 have at least h citations each" Google Scholar

Ethics in Reviewing

Integrity, objectivity, accountability

    Cannot reject a paper because

- You are writing a paper on the same subject
- You do not like the author

Confidentiality

    Single blind, double blind reviews

    The material in the paper is not publically available, so you cannot use ideas from it

Conflicts of interest with people who

    Work in the same place (never)

    Was your advisor (never)

    Have written papers together (recently)

    Have a financial interest

    Double blind review makes things harder, but when in doubt check with program chair

Considerations in Reviewing

Reasons, not binary decision, matter

　　The clarity and validity of the reasons you give for accept or reject matter

You are making an impression

　　The person who assigned you the review will form an opinion of your ability and maturity from your review

Get credit for your work

　　if assigned as a sub-reviewer, ask that you be acknowledged by the event or journal