

Writing Bad Papers  
Writing Good Papers  
VIEW Workshop

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# Overview

- ▶ What Not To Do
- ▶ What To Do

# Paper Pitfalls: Strategy

- ▶ What I Did Over My Summer Vacation
  - ▶ focus on effort not contribution
  - ▶ too low-level
- ▶ Least Publishable Unit
  - ▶ tiny increment beyond (your) previous work
  - ▶ bonus points: new name for old technique
- ▶ Dense As Plutonium
  - ▶ so much content that no room to explain why/what/how
  - ▶ fails reproducibility test
- ▶ Bad Slice and Dice
  - ▶ two papers split up wrong
  - ▶ neither is standalone, yet both repeat
- ▶ Slimy Simultaneous Submission
  - ▶ often detected when same reviewer for both
  - ▶ instant dual rejection, multi-conference blacklist

# Paper Pitfalls: Tactics

- ▶ Guess My Contributions Game
  - ▶ it's your job to tell reader explicitly
  - ▶ consider carefully, often different from original goals
- ▶ I Am So Unique
  - ▶ don't ignore previous work
  - ▶ both on similar problems and with similar solutions
- ▶ Enumeration Without Justification
  - ▶ "X did Y" not enough
  - ▶ must say why previous work doesn't solve your problem!
  - ▶ what limitations of theirs does your approach fix?
- ▶ Deadly Detail Dump
  - ▶ how allowed only **after** what and why
  - ▶ motivation: why should I care
  - ▶ overview: what did you do
  - ▶ details: how did you do it
- ▶ Jargon Attack
  - ▶ avoid where you can
  - ▶ define before using

# Review Reading Pitfalls

- ▶ Reviewers Were Idiots
  - ▶ rare: insufficient background to judge worth
  - ▶ if reviewer didn't get point, many readers won't
  - ▶ rewrite so clearly that nobody can misunderstand
- ▶ Reviewers Were Threatened By My Brilliance
  - ▶ seldom: unduly harsh since intimately familiar area
- ▶ I Just Know Person X Wrote This Review
  - ▶ sometimes true, sometimes false
  - ▶ don't get fixated, try not to take it personally
- ▶ Ignore Review and Resubmit Unchanged
  - ▶ often will get same reviewer, who will be irritated
- ▶ It's The Writing Not The Work
  - ▶ sometimes true: bad writing can doom good work
    - ▶ converse: good writing may save borderline work
  - ▶ sometimes false: weak work all too common
    - ▶ many people reinvent wheel
    - ▶ some people make worse wheels than previous ones

# Overview

- ▶ What Not To Do
- ▶ What To Do

# Paper Structure: General

- ▶ low level: necessary but not sufficient
  - ▶ correct grammar/spelling
  - ▶ sentence flow
- ▶ medium level: order of explanations
  - ▶ build up ideas
- ▶ high through low level:  
**why/what before how**
  - ▶ paper level
  - ▶ section level
  - ▶ sometimes even subsection or paragraph

# Paper Writing: Contributions

- ▶ what are your research contributions?
  - ▶ what can we do that wasn't possible before?
  - ▶ how can we do something better than before?
  - ▶ what do we know that was unknown or unclear before?
- ▶ determines everything
  - ▶ from high-level message to which details
- ▶ often not obvious
  - ▶ diverged from original goals, in retrospect
- ▶ state them explicitly and clearly in introduction
  - ▶ don't hope that reviewer or reader will fill in for you
  - ▶ don't leave unsaid what should be obvious after close reading of previous work
    - ▶ pw very important - but many readers skip
  - ▶ goal is clarity, not overselling
    - ▶ do include limitations: often later, in discussion subsection



# Three Suggestions

- ▶ write and give talk first
- ▶ **then** create paper outline from talk
  - ▶ encourages concise explanations of critical ideas
  - ▶ avoids wordsmithing ratholes and digressions
- ▶ practice talk feedback session: at least 3x talk length
  - ▶ global comments, then slide by slide detailed discussion
  - ▶ nurture culture of internal critique
- ▶ have nonauthors read paper before submitting
  - ▶ internal review can catch many problems
  - ▶ ideally group feedback session as above

# InfoVis Paper Styles

- ▶ technique
  - ▶ most common
  - ▶ here's how to do X
  - ▶ do first, or do better
- ▶ design study
  - ▶ not just apply technique X to domain Y
  - ▶ justify visual encoding choices
- ▶ system
  - ▶ very hard to do well!
  - ▶ lessons learned: why do we care?
- ▶ evaluation
  - ▶ often but not always user studies
- ▶ model
  - ▶ frameworks, taxonomies
  - ▶ best case: taxonomy as aid to thinking, finding gaps
  
- ▶ actual paper may (should?!) have a mix of these elements
- ▶ more at [www.infovis.org/infovis/2003/CFP/#papers](http://www.infovis.org/infovis/2003/CFP/#papers)

# Paper Writing: InfoVis Technique/Design Study

- ▶ what problem are you solving
- ▶ why should I care
  - ▶ order depends on whether familiar
- ▶ why don't existing systems solve problem
- ▶ technique
  - ▶ **how algorithm works: overview, then details**
- ▶ design study
  - ▶ **what is mapping from domain problem to visual encoding**
  - ▶ **why does it solve problem**
    - ▶ **abstraction and justification is critical**
  - ▶ **may include multiple design iterations**
- ▶ results
  - ▶ complexity, performance, visual quality, efficacy
  - ▶ informal usability, formal user study, field study
  - ▶ anecdotes (insights found), user community (adoption),
  - ▶ usage scenarios, case studies