

U N I V E R S I T Y O F C A L I F O R N I A , M E R C E D

How to Get Your CVPR Paper Rejected?

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Outline

- Conferences
- Journals
- Writing
- Presentation
- Lessons

Conferences

- CVPR – Computer Vision and Pattern Recognition, since 1983
 - Annual, held in US
- ICCV – International Conference on Computer Vision, since 1987
 - Every other year, alternate in 3 continents
- ECCV – European Conference on Computer Vision, since 1990
 - Every other year, held in Europe

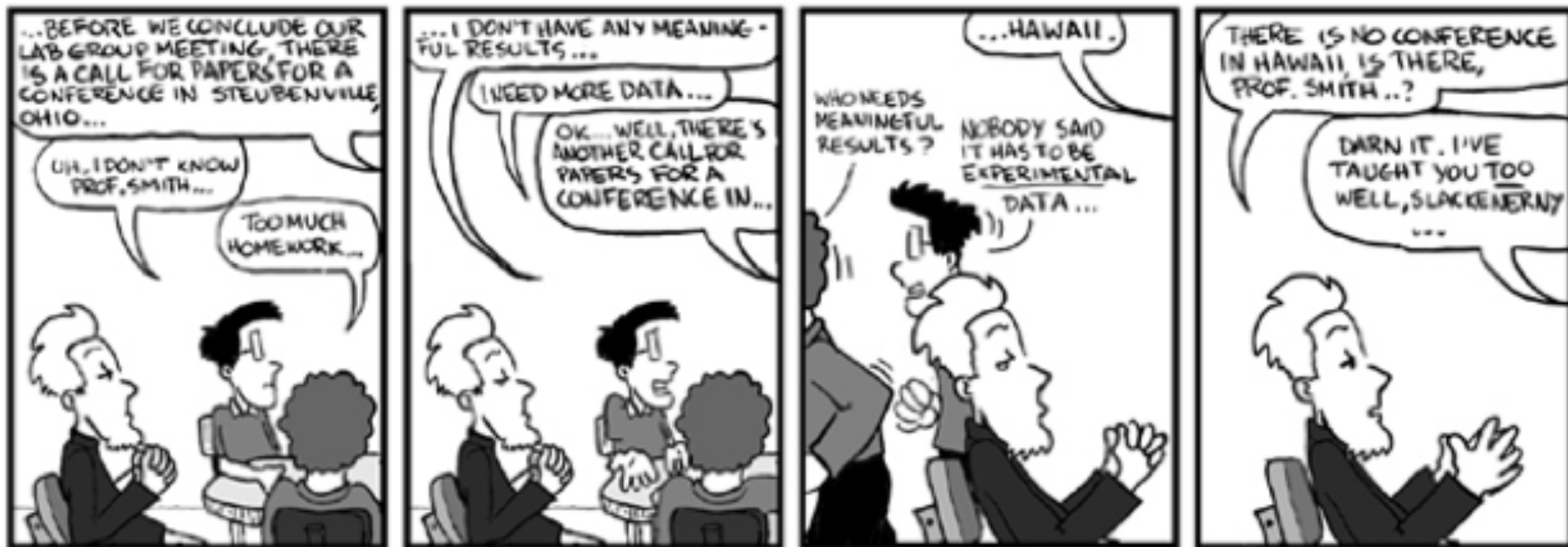
Conferences

- ACCV – Asian Conference on Computer Vision
- BMVC – British Machine Vision Conference
- ICPR – International Conference on Pattern Recognition
- SIGGRAPH
- NIPS – Neural Information Processing Systems

Conferences

- MICCAI – Medical Image Computing and Computer-Assisted Intervention
- FG – IEEE Conference on Automatic Face and Gesture Recognition
- ICCP – IEEE International Conference on Computational Photography
- ICML – International Conference on Machine Learning
- IJCAI, AAI, MVA, ICDR, ICVS, DAGM, CAIP, ICRA, ICASSP, ICIP, SPIE, DCC, WACV, 3DPVT, ACM Multimedia, ICME, ...

Conference Location



Conference Location



- Time and conference I want to attend (location vs reputation)

Conference Organization

- General chairs: administration
- Program chairs: handling papers
- Area chairs:
 - Assign reviewers
 - Read reviews and rebuttals
 - Consolidation reports
 - Recommendation
- Reviewers
- Authors

Review Process

- Submission
- CVPR/ECCV/ICCV
 - Double blind review
 - Program chairs: assign papers to area chairs
 - Area chairs: assign papers to reviewers
- Rebuttal
- Results

Area Chair Meetings

- 2 day meetings
- Several panels
- Each paper is reviewed by at least 2 area chairs
- Buddy system
- Area chair make recommendations
- Program chairs make final decisions

Triage

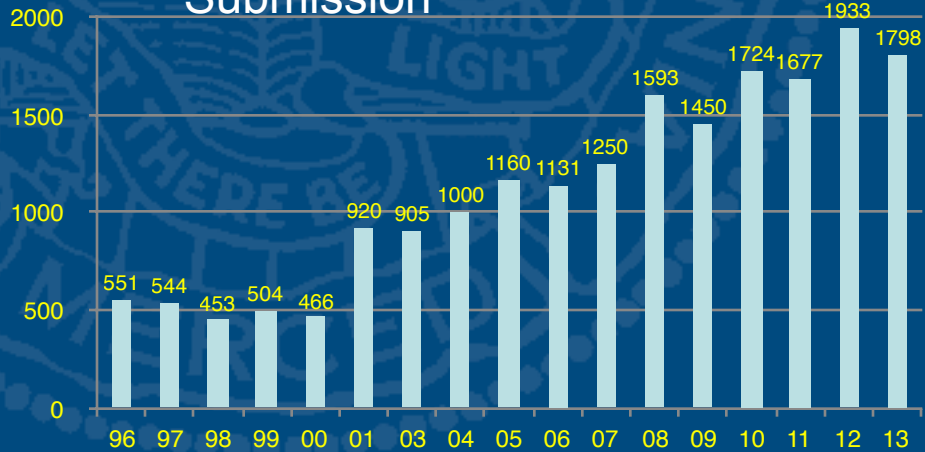
- Area chairs know the reviewers
- Reviews are weighted
- Based on reviews and rebuttal
 - Accept: (decide oral later)
 - Reject: don't waste time
 - Go either way: lots of papers
- Usually agree with reviewers but anything can happen as long as there are good justifications

Conference Acceptance Rate

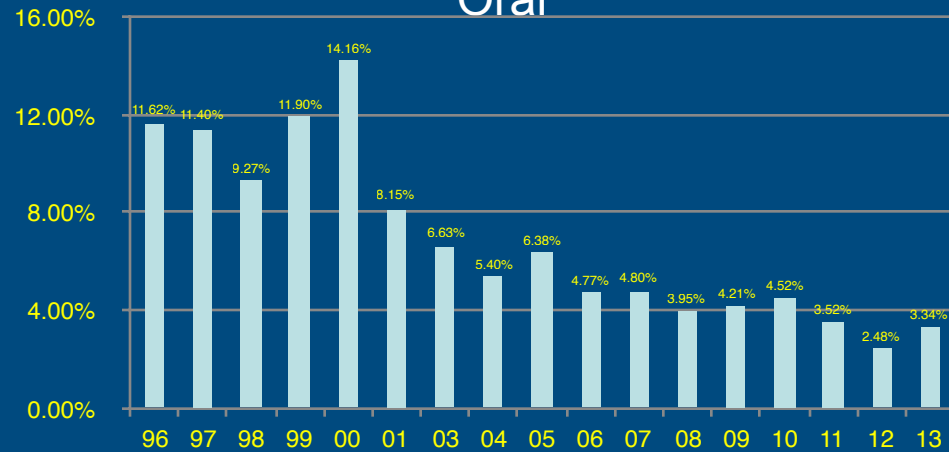
- ICCV/CVPR/ECCV: ~ 25%
- ACCV (2009): ~ 30%
- NIPS: ~ 25%
- BMVC: ~ 30%
- ICIP: ~ 45%
- ICPR: ~ 55%
- Disclaimer
 - low acceptance rate = high quality?

CVPR

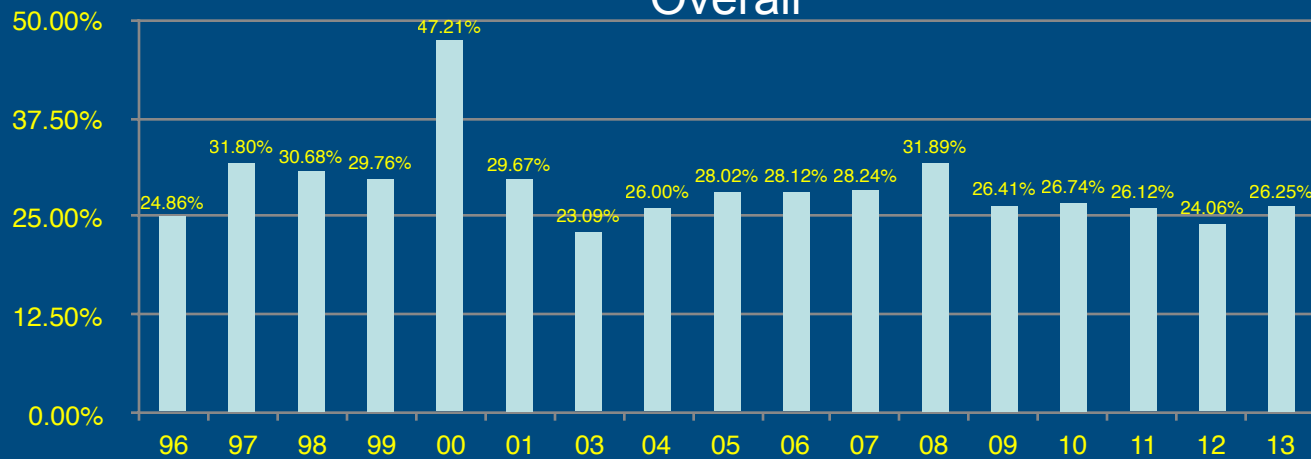
Submission



Oral

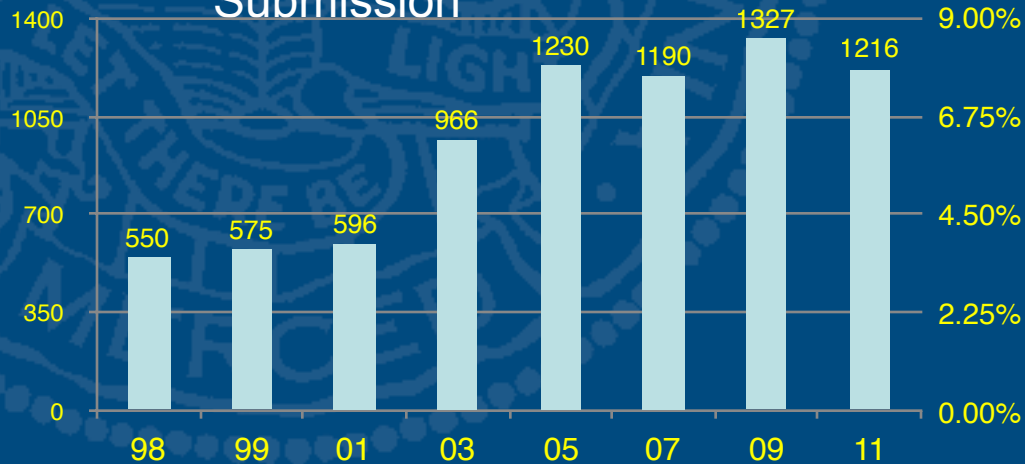


Overall

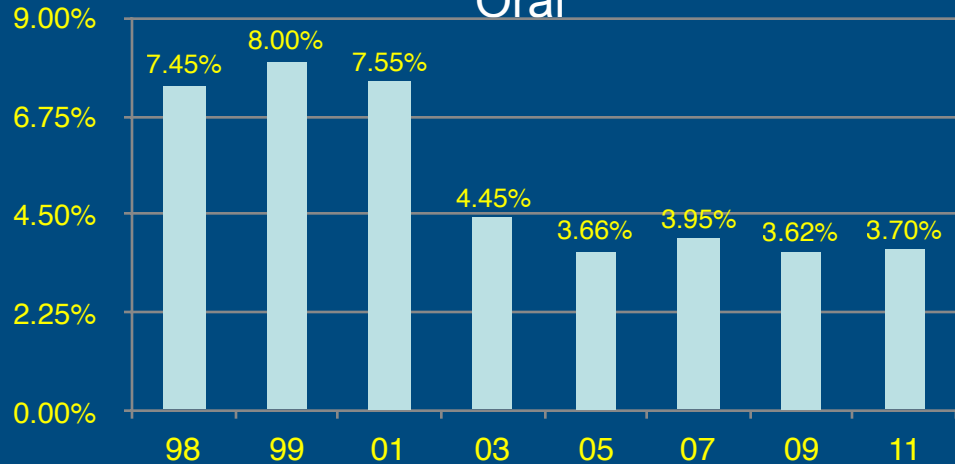


ICCV

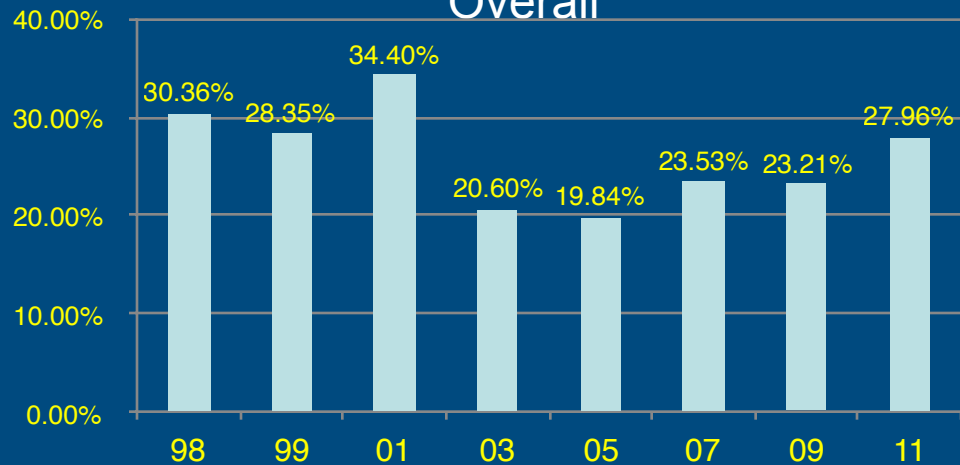
Submission



Oral

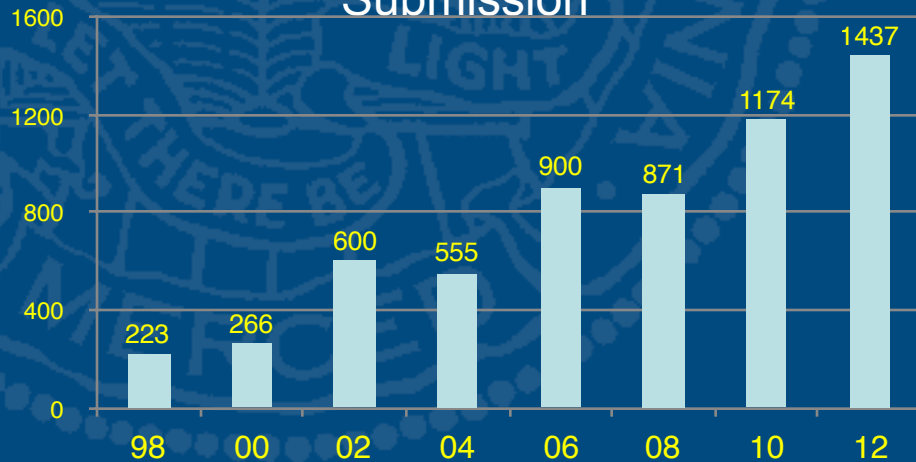


Overall

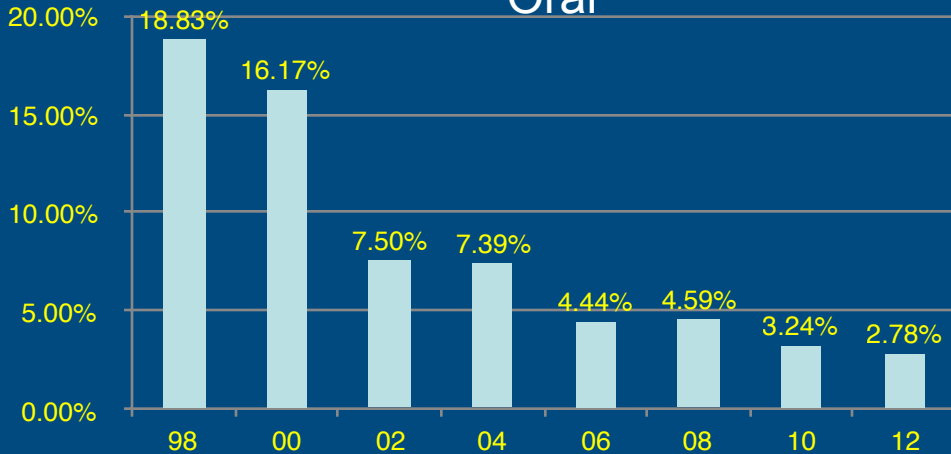


ECCV

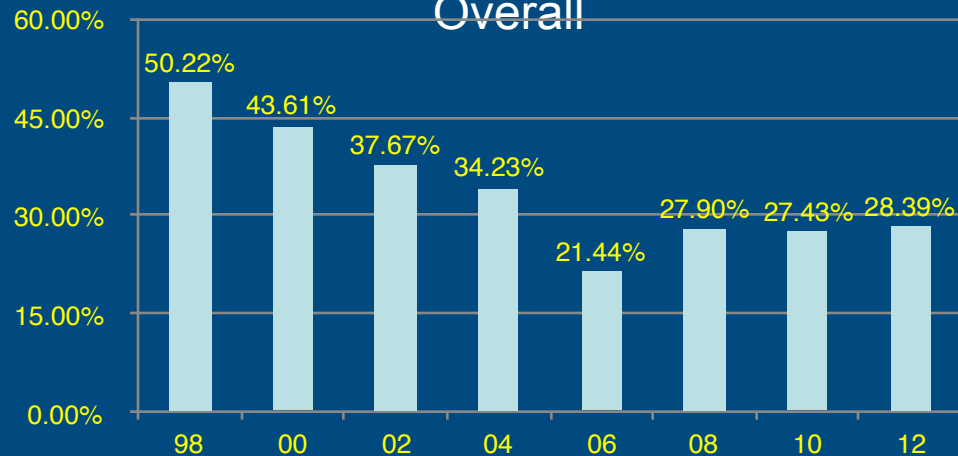
Submission



Oral



Overall



Top 100 Publications - English

- For what it is worth (h5 index by Google Scholar)

1. Nature

2. The New England Journal of Medicine

3. Science

...

63. IEEE Conference on Computer Vision and Pattern Recognition (CVPR)

...

Top Publications - E&CS

1. Nano Letters

...

7. IEEE Conference on Computer Vision and
Pattern Recognition (CVPR)

...

13. IEEE Transactions on Pattern Analysis
and Machine Intelligence

...

Reactions

- Top journal papers
- Workshops vs conferences
- Waiting for the review and results
- Acceptance
- Reject
- Mixed feeling
- Finding an error
- Resubmit?
- This time, it will go through
- Paper finally accepted
- Registration
- Oral presentation
- Poster presentation

Database Community

- Jeffrey Naughton's ICDE 2010 [keynote](#)
- What's wrong with the reviewing process?
- How to fix that?

Journals

- PAMI – IEEE Transactions on Pattern Analysis and Machine Intelligence, since 1979 (impact factor: 5.96, #1 in all engineering and AI, top-ranked IEEE and CS journal)
- IJCV – International Journal on Computer Vision, since 1988 (impact factor: 5.36, #2 in all engineering and AI)
- CVIU – Computer Vision and Image Understanding, since 1972 (impact factor: 2.20)

Journals

- IVC – Image and Vision Computing
- TIP – IEEE Transactions on Image Processing
- TMI- IEEE Transactions on Medical Imaging
- MVA – Machine Vision and Applications
- PR – Pattern Recognition
- TMM – IEEE Transactions on Multimedia
- ...

PAMI Reviewing Process

- Editor-in-chief (EIC) assigns papers to associate editors (AE)
- AE assigns reviewers
- First-round review: 3-6 months
 - Accept as is
 - Accept with minor revision
 - Major revision
 - Resubmit as new
 - Reject

PAMI Reviewing Process

- Second-round review: 2-4 months
 - Accept as is
 - Accept with minor revision
 - Reject
- EIC makes final decision
- Overall turn-around time: 6 to 12 months
- Rule of thumb: 15% additional work beyond a CVPR/ICCV/ECCV paper

IJCV/CVIU Reviewing Process

- Similar formats
- CVIU has roughly the same turn-around time as PAMI
- IJCV tends to have longer turn-around time

Journal Acceptance Rate

- PAMI, IJCV: ~ 20% (my guess, no stats)
- CVIU: ~ 30%

From Conferences to Journals

- How much additional work?
 - 30% additional more work for PAMI?
 - As long as the journal version is significantly different from the conference one
- Novelty of each work
 - Some reviewers still argue against this
 - Editors usually accept paper with the same ideas

How to Get Your Paper Rejected?

- Jim Kajaia (SIGGRAPH 93 papers chair):
[How to get your SIGGRAPH paper rejected?](#)
- Do not
 - Pay attention to review process
 - Put yourself from a reviewer's perspective
 - Put the work in right context
 - Carry out sufficient amount of experiments
 - Compare with state-of-the-art algorithms
 - Pay attention to writing

Review Form

- Summary
- Overall Rating
 - Definite accept, weakly accept, borderline, weakly reject, definite reject
- Novelty
 - Very original, original, minor originality, has been done before
- Importance/relevance
 - Of broad interest, interesting to a subarea, interesting only to a small number of attendees, out of CVPR scope

Review Form

- Clarity of presentation
 - Reads very well, is clear enough, difficult to read, unreadable
- Technical correctness
 - Definite correct, probably correct but did not check completely, contains rectifiable errors, has major problems
- Experimental validation
 - Excellent validation or N/A (a theoretical paper), limited but convincing, lacking in some aspects, insufficient validation
- Additional comments
- Reviewer's name

Learn from Reviewing Process

- Learn how others/you can pick apart a paper
- Learn from other's mistakes
- Get to see other reviewers evaluate the same paper
- See how authors rebut comments
- Learn how to write good papers
- Learn what it takes to get a paper published

Put Yourself as Reviewer

- Reviewer's perspective
- How a paper gets rejected?
- What are the contributions?
- Does it advance the science in the field?
- Why you should accept this paper?
- Is this paper a case study?
- Is this paper interesting?
- Who is the audience?

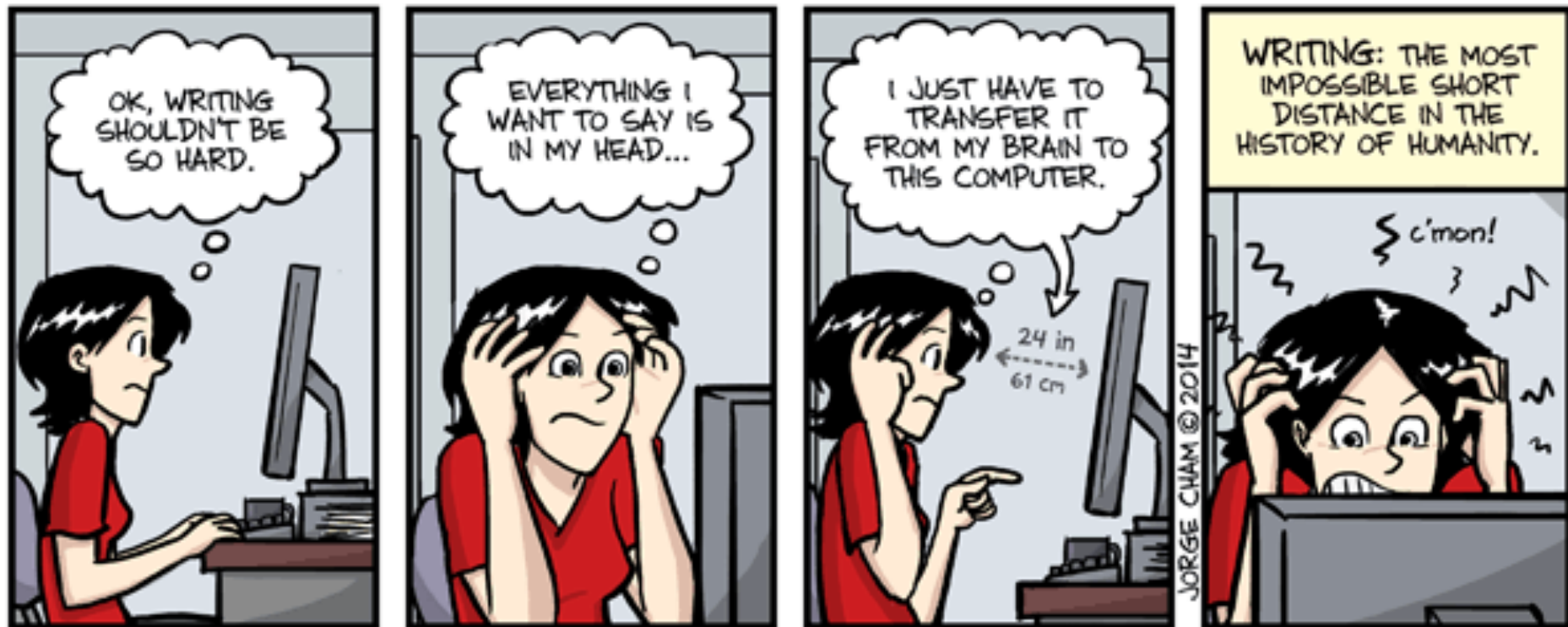
Experimental Validation

- Common data set
- Baseline experiment
- Killer data set
- Large scale experiment
- Evaluation metric
- Side effects
- Comparisons

Compare With State of the Art

- Do your homework
- Need to know what is out there
- Need to show why one's method outperforms others, and in what way?
 - speed?
 - accuracy?
 - sensitive to parameters?
 - assumption
 - easy to implement?
 - general application?

Writing



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Writing



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Writing

- Reviewing a poorly written paper
- Clear presentation
- Terse
- Careful about wording
- Make claims with strong evidence

Writing

- Matt Welsh's blog on [scientific writing](#)
- Sharpen your mental focus
- Force you to obsess over every meticulous detail – word choice, word count, overall tone, readability of graphs (and others such as [font size](#), layout and spacing, and [page limit](#))

Writing

- Crystalizing the ideas through the process of putting things together
- Hone the paper to a razor-sharp, articulate, polished work

Writing

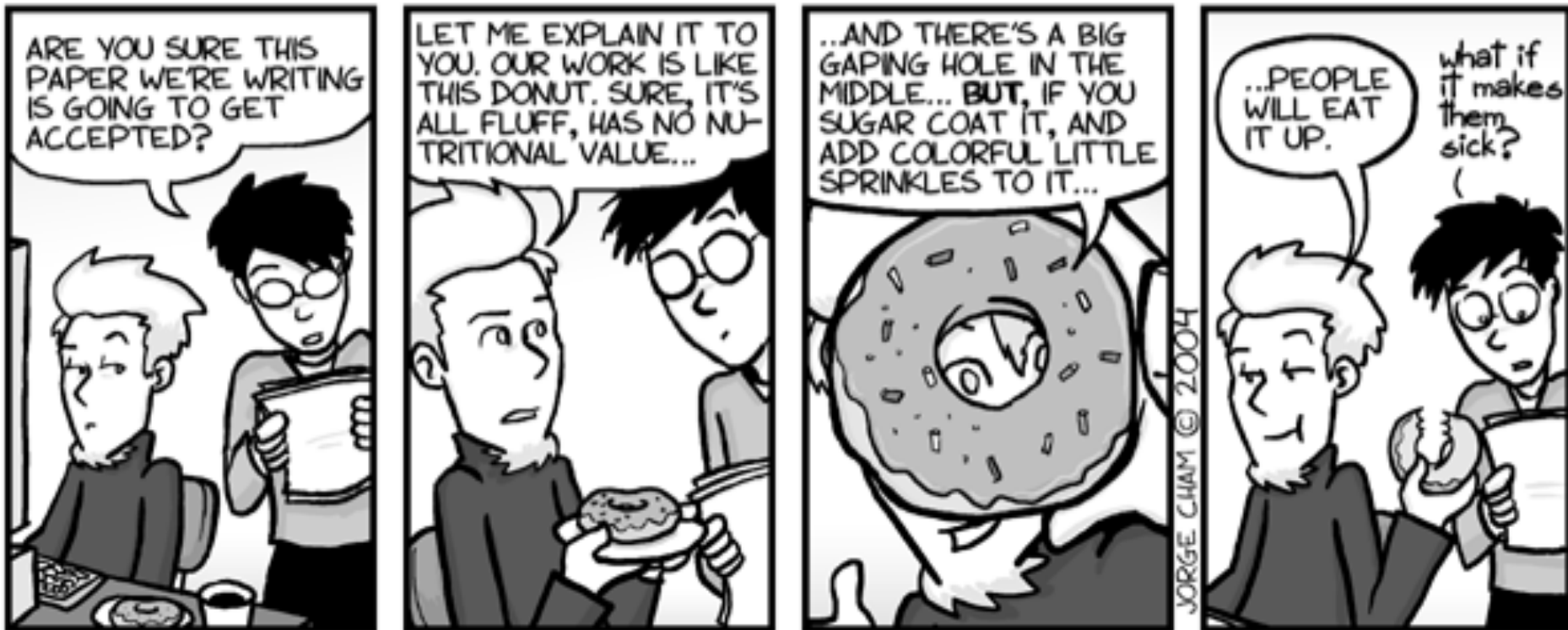
- Write the paper *as early as possible*, sometimes *before* even starting the research work
- Will discover the important things that you have not thought about
- The process of writing results in a flood of ideas

Writing

- Even if a paper is not accepted, the process is energizing and often lead to new ideas for the next research problems
- Submitting the paper is often the start of a new line of work
- Riding on that clarity of thought would emerge post-deadline (and a much-needed break)

Tell A Good Story

- Good ideas and convincing results
- But not too much (vs grant proposal)



Presentation

- Good artists copy, great artists steal
- Not just sugar coating
- Not just a good spin
- Tell a convincing story with solid evidence
- Present your ideas with style
- Q&A
- Real stories

Interesting Title

- Cool titles attract people
- Grab people's attention
- Buzz word?
- But don't be provocative

Math Equations

- Minimal number of equations
 - No more, no less
 - Too many details simply make a paper inaccessible
- Too few equations
- Many good papers have no or few equations
 - CVPR 13 best paper
 - CVPR 05 HOG paper

Figures

- Be clear
- Sufficient number of figures

Theoretical or Applied?

- Computer vision is more applied, at least nowadays
- Theory vs real world
- More high impact papers are about how to get things done right

Common Mistakes

- typos
- “a”, “the”
- inanimate objects with verbs
- inconsistent usage of words

Get Results First than Writing?

- Conventional mode
 - Idea-> Do research -> Write paper
- “[How to write a great research paper](#)” by Simon Peyton Jones
 - Idea -> Write paper -> Do research
 - Forces us to be clear, focused
 - Crystallizes what we don't understand
 - Opens the way to dialogue with others: reality check, critique, and collaboration
- My take
 - Idea -> Write paper -> Do research -> Revise paper -> Do research -> Revise paper -> ...

Supplementary Material

- Important
- Add more results and large figures
- Add technical details as necessary (don't miss important details)
- Derivation details, e.g., proof of a theorem

Most Important Factors

- Novelty
- Significant contributions (vs. [salami publishing](#))
- Make sure your paper is non-rejectable (above the bar with some error margin)

Rebuttal or Response

ADDRESSING REVIEWER COMMENTS

BAD REVIEWS ON YOUR PAPER? FOLLOW THESE GUIDELINES AND YOU MAY YET GET IT PAST THE EDITOR:

Reviewer comment:

"The method/device/paradigm the authors propose is clearly wrong."

How NOT to respond:

✗ "Yes, we know. We thought we could still get a paper out of it. Sorry."

Correct response:

✓ "The reviewer raises an interesting concern. However, as the focus of this work is exploratory and not performance-based, validation was not found to be of critical importance to the contribution of the paper."

Reviewer comment:

"The authors fail to reference the work of Smith et al., who solved the same problem 20 years ago."

How NOT to respond:

✗ "Huh. We didn't think anybody had read that. Actually, their solution is better than ours."

Correct response:

✓ "The reviewer raises an interesting concern. However, our work is based on completely different first principles (we use different variable names), and has a much more attractive graphical user interface."

Reviewer comment:

"This paper is poorly written and scientifically unsound. I do not recommend it for publication."

How NOT to respond:

✗ "You #&@*% reviewer! I know who you are! I'm gonna get you when it's my turn to review!"

Correct response:

✓ "The reviewer raises an interesting concern. However, we feel the reviewer did not fully comprehend the scope of the work, and misjudged the results based on incorrect assumptions."

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Anything can happen:

- Good surprise:
 - One CVPR paper: BR, BR, DR
 - Two ECCV papers: PR, PR, BR
- Bad surprise:
 - Two ECCV papers: PA, PA, BR

Challenging Issues

- Large scale
 - CVPR 2011 best paper: pose estimation
 - CVPR 2013 best paper: object detection
- Unconstrained
- Real-time
 - CVPR 2001: face detector
 - CVPR 2006: scalable object recognition
- Robustness
- Recover from failure

Interesting Stats

- Best papers and top cited papers in computer science
- Best papers = high impact?
- Oral papers are more influential?
- CVPR Longuet-Higgins prize
- ICCV test-of-time award

Data Set Selection

- NIPS 02 by Doudou LaLoudouana and Mambobo Bonouliqui Tarare, Lupano Tecallonou Center, Selacie, Guana
- [The secret to publish a paper in machine learning conferences?](#)
- Read the references therein carefully!

Ask Someone to Proofread

- Certainly your advisor
- Polish your work

Paper Gestalt

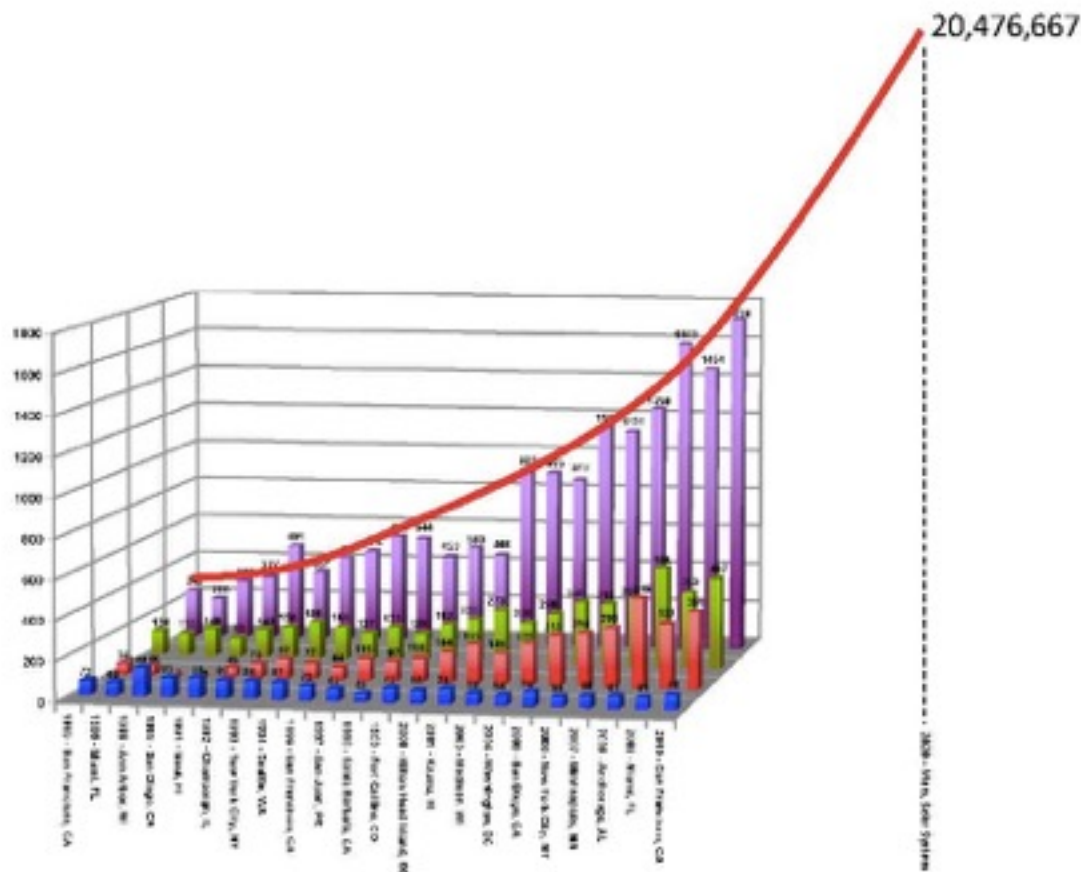


Figure 1. **Paper submission trends.** The number of submitted papers to CVPR, and other top tier computer vision conferences, is growing at an alarming rate. In this paper we propose an automated method of rejected sub-par papers, thereby reducing the burden on reviewers.

Paper Gestalt

- CVPR 10 by Carven von Bearnensquash,
Department of Computer Science,
University of Phoenix
- Main Point: Get your paper looking pretty
with right mix of equations, tables and
figures

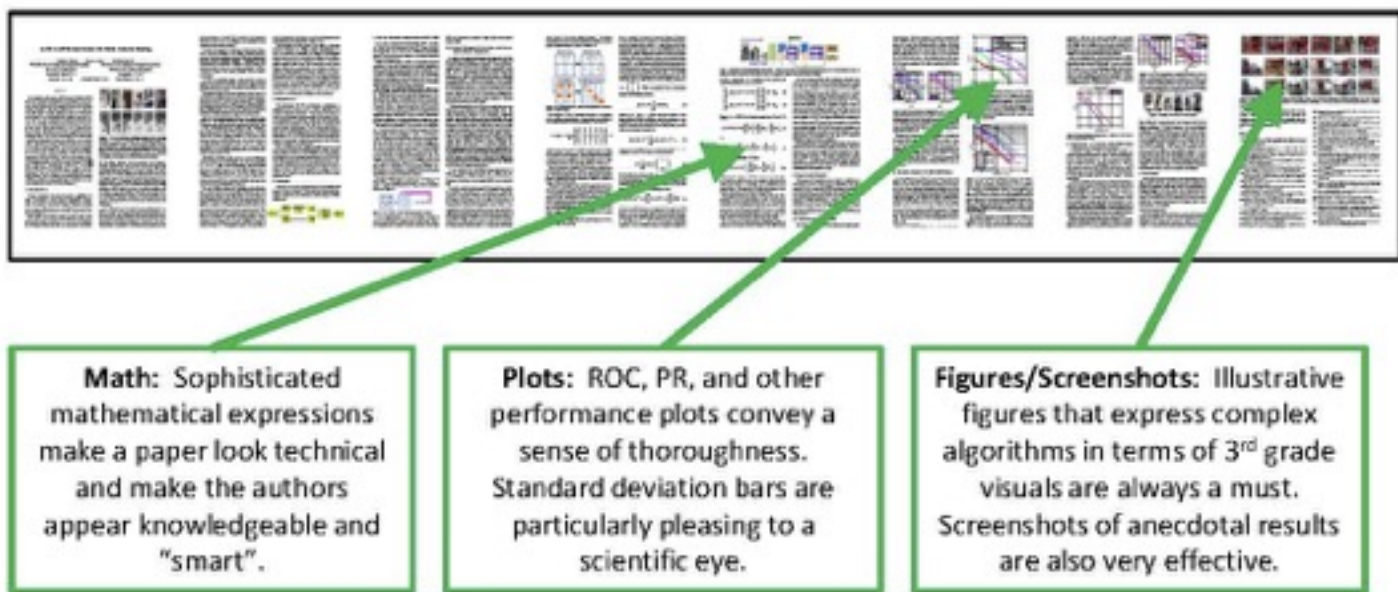


Figure 6. Characteristics of a "Good" paper.

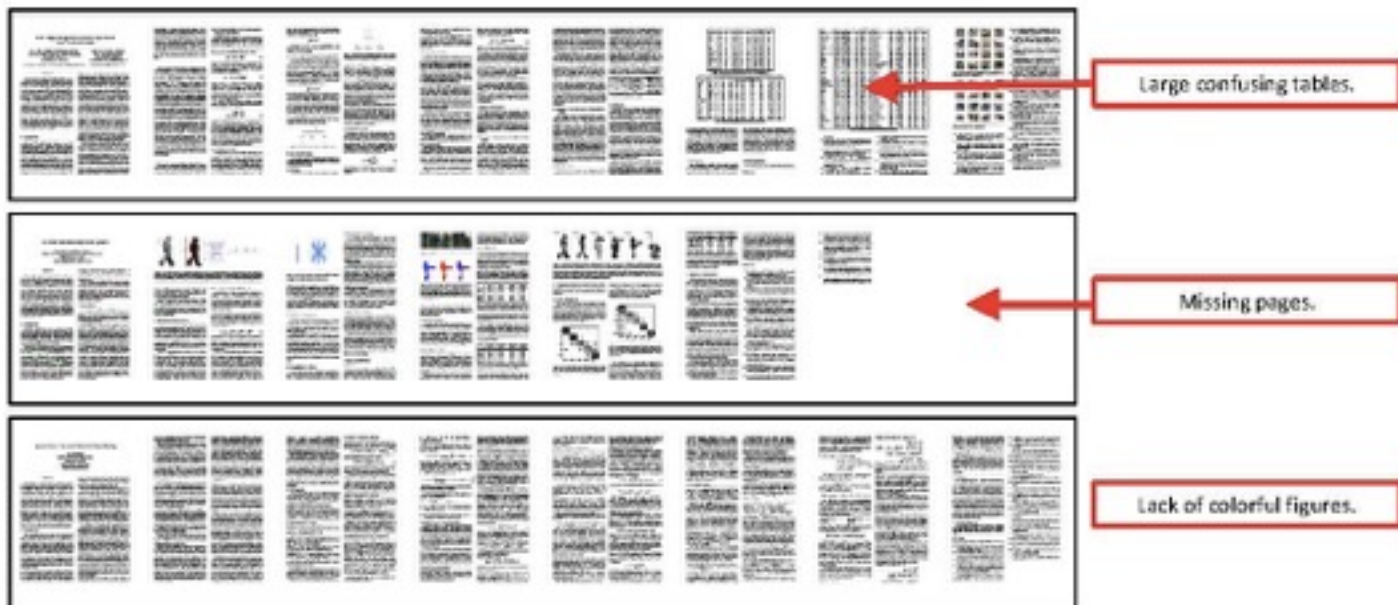


Figure 7. Characteristics of a "Bad" paper.

Tools

- [Google scholar](#), citeseer
- h-index
- Software: publish or perish
- Disclaimer:
 - h index = significance?
 - # of citation = significance?

Basic Rules

- Use LaTeX
- Read authors' guideline
- Read reviewers' guideline
- Print out your paper – what you see may NOT be what you get
- Submit paper right before deadline
 - Risky
 - Exhausting
 - Murphy's law
- Do not count on extension

Lessons

- Several influential papers have been rejected once or twice
- Some best papers make little impact
- Never give up in the process

Karma?

WHAT YOU THINK OF YOUR PROFESSOR vs. TIME



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Advisor and you

- Suggesting a research topic
- When your advisor presents your work
- When you explain your work
- Demos
- Good results

Start Working Early!

- Write, write, write...
- Ask others for comments

SUMMER DAYS...

THE LAB: 1 DAY AFTER ADVISOR LEAVES FOR VACATION.



THE LAB: 2 DAYS AFTER ADVISOR LEAVES FOR VACATION.



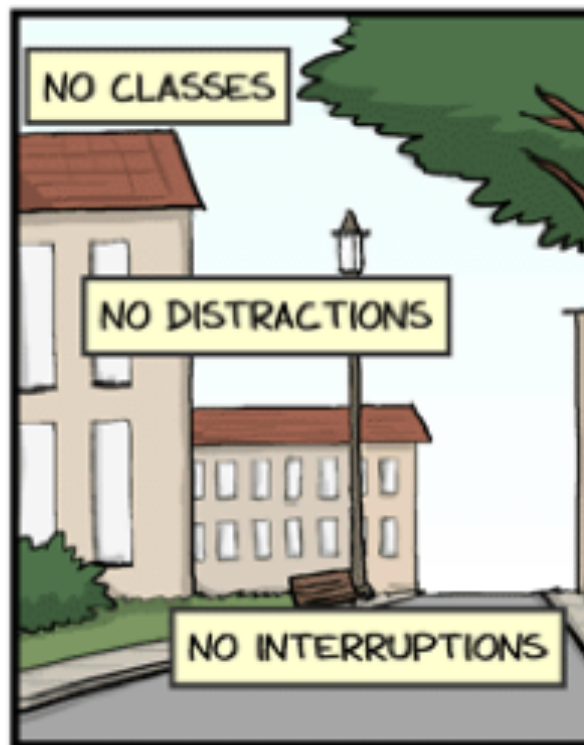
THE LAB: 1 DAY BEFORE ADVISOR COMES BACK FROM VACATION.



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Work Hard in the Summer



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Quotes from Steve Jobs

- "I'm convinced that about half of what separates successful entrepreneurs from the non-successful ones is pure perseverance."
- "Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really do it, they just saw something. It seemed obvious to them after a while."