

UTSA CS 4593: CS-CURE

Course-based Undergraduate Research Experience in CS

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Spring 2024

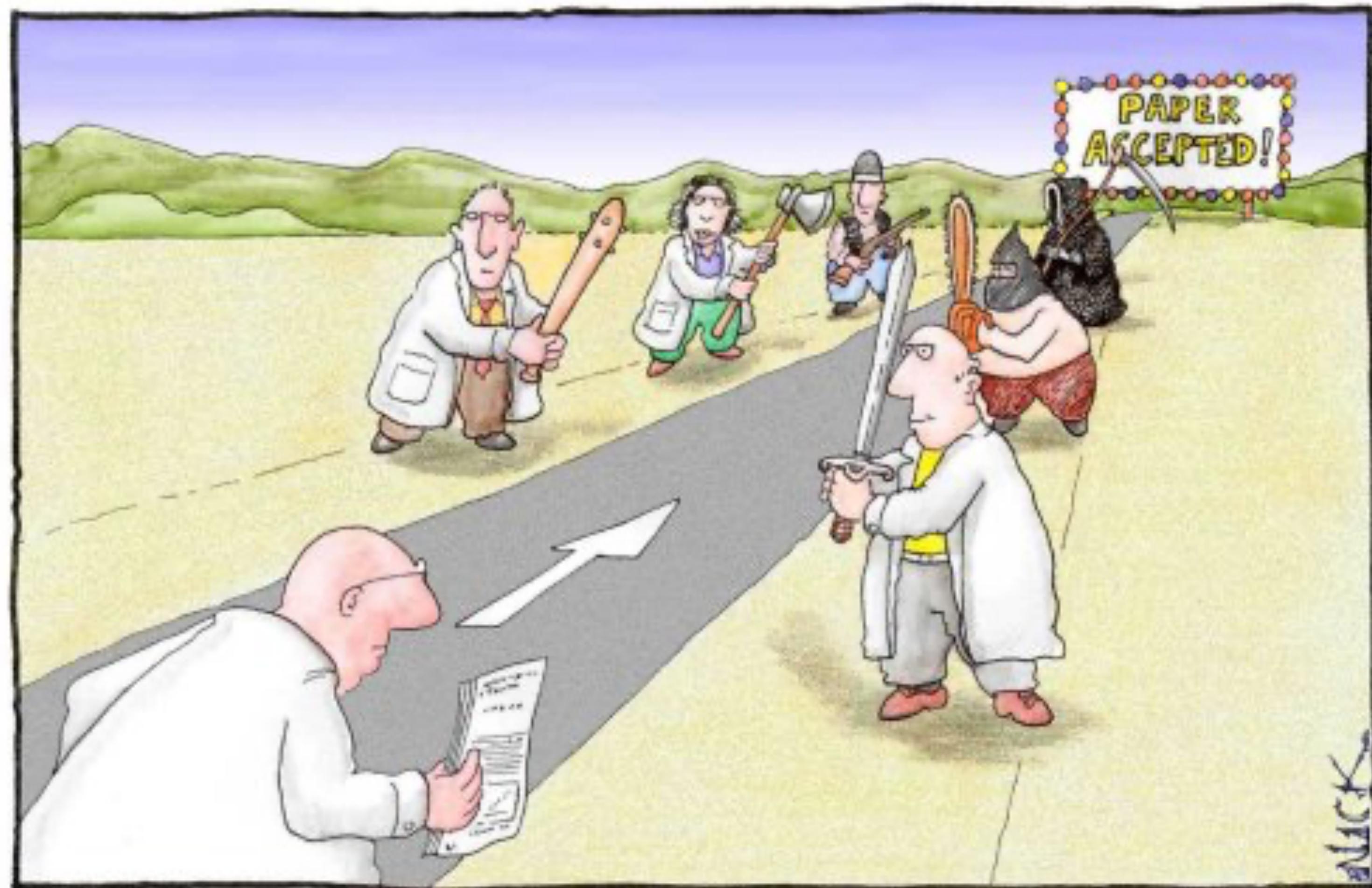
Week 12: The Peer Review Process

UTSA CS-CURE

Week 12

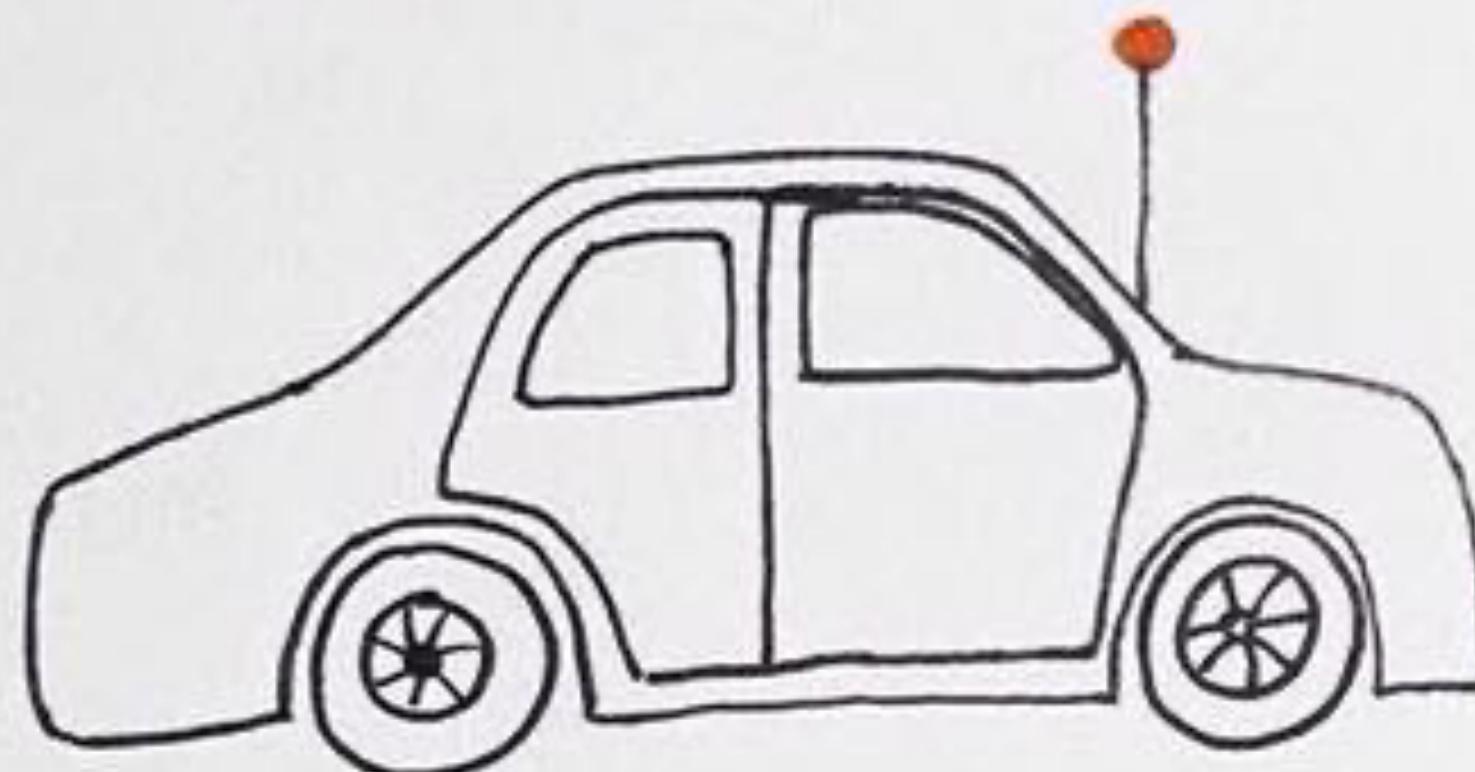
- Objectives:
 - Understand the peer review process for publishing research
 - Learn from expert(s) in diverse fields within CS
- Deliverables:
 - Guest Lecture Survey (*in-class Thursday*)

Peer Review: The basics



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

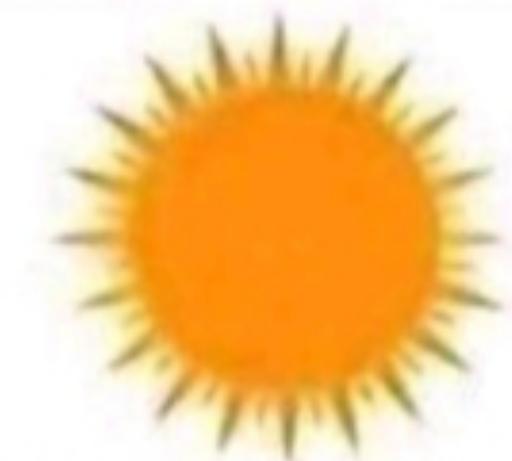
Your manuscript as submitted



... and after peer review and revision



What they are afraid of:



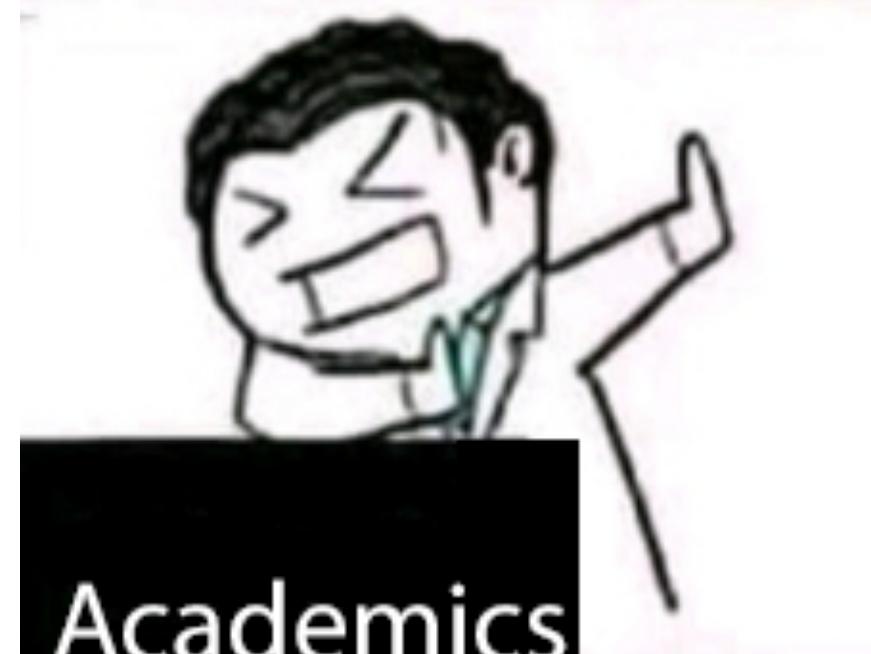
Sunlight



Superman



Kryptonite



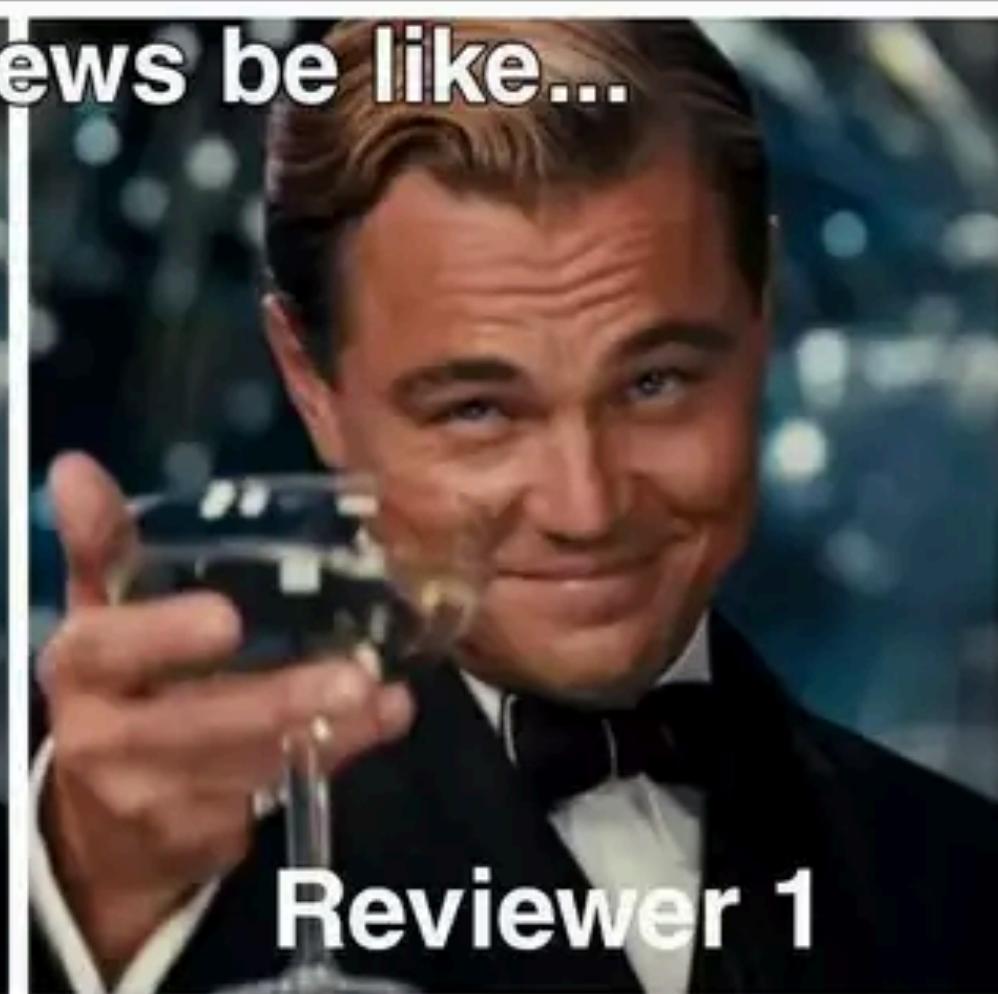
Academics



Reviewer 2



Journal reviews be like...



Editor

Reviewer 1



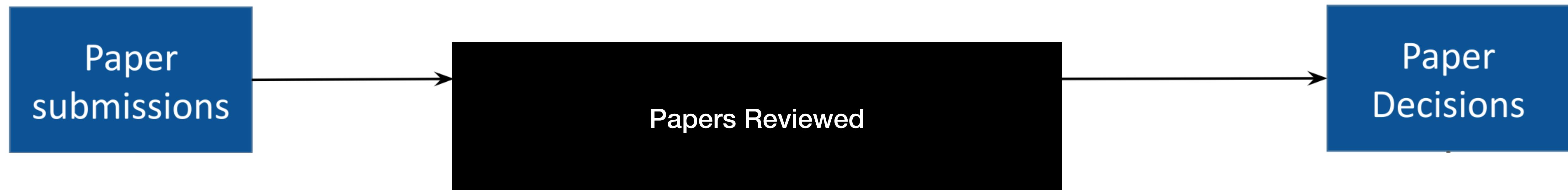
Reviewer 2



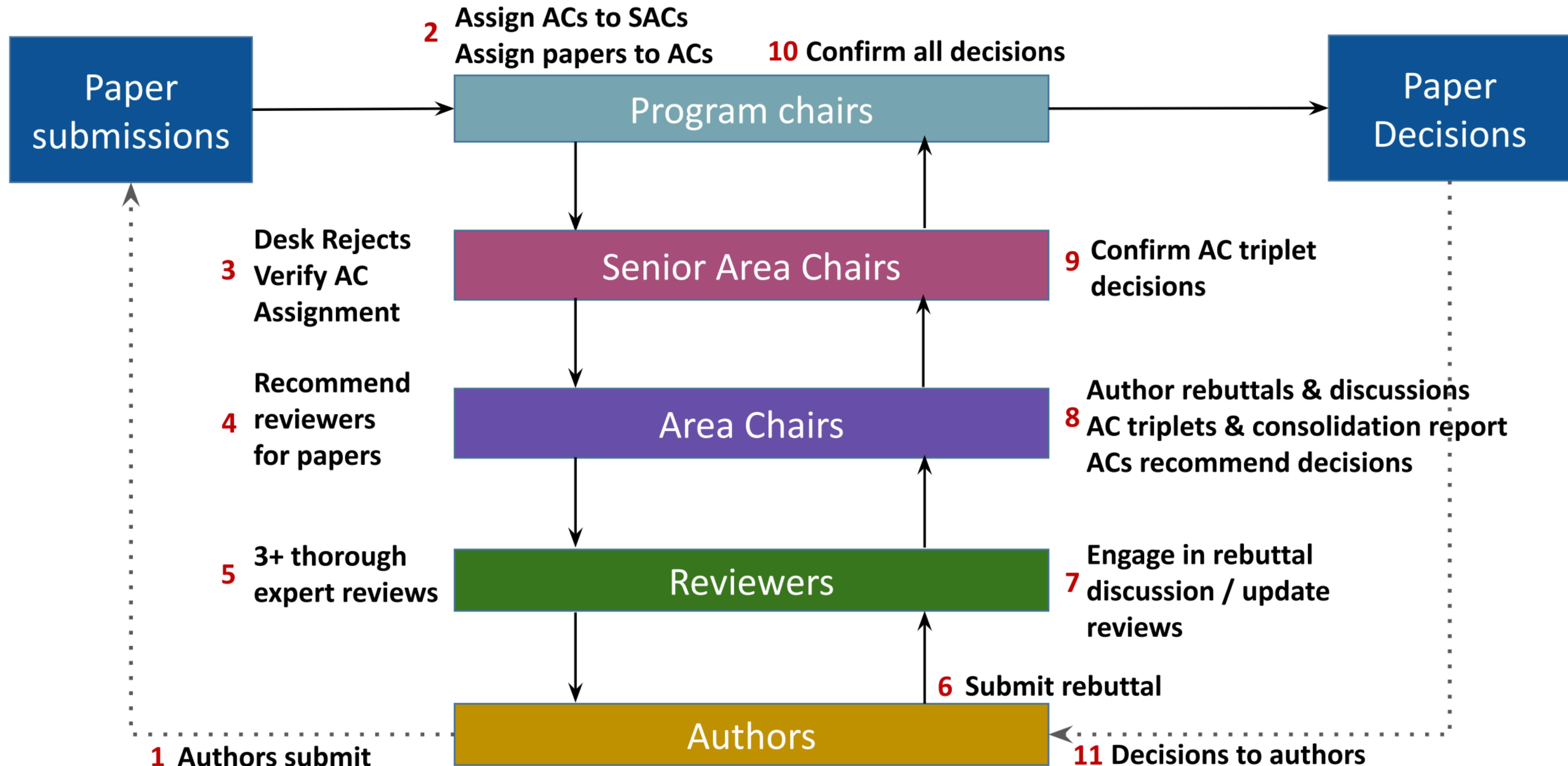
Reviewer 3

<https://shitmyreviewerssay.tumblr.com/>

The Decision Process: Overview



The Decision Process: Overview



The Peer Review Process

1. Paper registration
2. Paper submission
3. Assignments (AC & reviewers)
4. Initial reviews
5. Rebuttals
6. Discussion
7. Final Reviews
8. Final decisions & notifications

Types of Reviews

Peer Review

- **Volunteers** who are experts in the community dedicate time to reviewing each year.
- Each paper receives **3 to 6** peer reviews.

COMMON TYPES OF PEER REVIEW



01



SINGLE BLIND PEER REVIEW

Authors don't know who the reviewers are. But the reviewers are aware of the authors' identity.

02



DOUBLE BLIND PEER REVIEW

The journal editor does not reveal the reviewers' credentials to the authors and vice-versa.

03

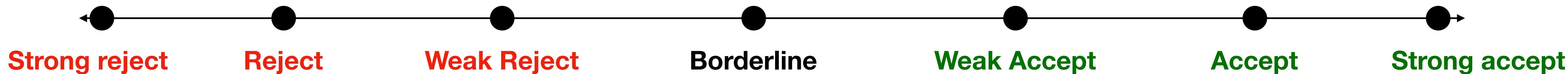


OPEN PEER REVIEW

The authors and peer reviewers both know each other's identities.

Ratings & Scales

Peer Review



- **Final decisions** are often rated as above.
- Reviewers typically also rate (e.g. from 1 to 5) the:
 - Novelty
 - Applicability to community interests
 - Clarity of writing
 - The reviewers' own expertise in the field

Ethics for Reviewing Papers

Peer Review

1. Respect anonymity in the review process
2. Protect ideas
3. Avoid conflicts of interest
4. Be professional

Different Kinds of Evaluation

Peer Review

Different types of papers should be evaluated differently!

Paper Contribution	Evaluation
Potentially transformative idea	Basic proof-of-concept
Established problem, plausible idea	Benchmark results
Weird, overly complex, implausible, and/or seemingly incremental	Extraordinary results <i>(Needs to be scrutinized carefully)</i>
Position piece or theory paper	No experiments, extensive justification

Peer Review: Common Platforms for CS Venues

Common Platforms for Peer Review

Peer Review

- OpenReview.net
- Microsoft CMT
- EasyChair

Your Profile as a Researcher

Peer review platforms

- Most often **all co-authors** must have a profile in the submission system.
 - Confirms your authorship of the submission.
 - Identify reviewers who would be a conflict of interest.
 - Identify your areas of research expertise.



My Conferences

[Recent roles](#)
[All roles](#)

This page shows conferences you have been involved in EasyChair.

If you **cannot find here what you are looking for**, [try this page explaining common problems](#).

If you would like to **view your roles** instead, use the context menu in the upper right corner.

EasyChair Preprints

You can now **publish your preprints** in EasyChair. Click the **Preprints** menu tab to access the preprint publishing environment. You can either convert one of your recent EasyChair paper to a preprint or create a completely new preprint.

[Click here](#) to access published preprints.

To access a conference, click on its acronym

Color explanation: active conference, expired conference.

#	Acronym	Name
14	ISVC'24	19th International Symposium on Visual Computing
13	SIGCSE TS 2024	55th ACM Technical Symposium on Computer Science Education
12	RESPECT 2022	Conference for Research on Equity and Sustained Participation in Engineering, Computing, and Technology
11	SIGCSE TS 2023	54th ACM Technical Symposium on Computer Science Education
10	ITiCSE 2022	27th Annual Conference on Innovation and Technology in Computer Science Education
9	SIGCSE TS 2022	53rd ACM Technical Symposium on Computer Science Education
8	ISVC'21	16th International Symposium on Visual Computing
7	SURF 2020	San Antonio Military Health System and Universities Research Forum (SURF) 2020
6	IEEE CLOUD 2020	2020 IEEE International Conference on Cloud Computing
5	ISVC'20	15th International Symposium on Visual Computing
4	IC2E 2020	The 8th IEEE International Conference on Cloud Engineering
3	ISVC'19	14th International Symposium on Visual Computing (ISVC'19)
2	SSCI2019	The 2019 IEEE Symposium Series on Computational Intelligence
1	NCS19	National Cyber Summit Research Track



Active Venues

TMLR

Computo

DMLR

Stanford University Fall2023 CS329H

ACL ARR 2023 October

ICAPS 2024 Conference

KU Fall2023 COMP541

ICLR 2024 BlogPosts

Purdue University ML 2023 Hackathon

Reproducibility Challenge

EACL 2024 Conference

NAACL 2024 Workshop Clinical NLP

EAMT 2024 Tutorials Track

Open for Submissions

[INTERSECT 2024 Symposium](#)

⌚ Due 02 Apr 2024 at 06:59 Central Daylight Time

[IEEE 2024 ICRA Workshop Manipulation Skills](#)

⌚ Due 02 Apr 2024 at 06:59 Central Daylight Time

[StarSEM 2024 ARR Commitment](#)

⌚ Due 02 Apr 2024 at 18:59 Central Daylight Time

[JFPC 2024 Conference](#)

⌚ Due 02 Apr 2024 at 18:59 Central Daylight Time

[CVPR 2024 Workshop DD](#)

⌚ Due 02 Apr 2024 at 18:59 Central Daylight Time

[IEEE 2024 ICRA Workshop WIHR](#)

⌚ Due 02 Apr 2024 at 19:00 Central Daylight Time

[XJTU 2024 CSUC](#)

⌚ Due 02 Apr 2024 at 19:00 Central Daylight Time

[ICAPS 2024 Workshop WIPC](#)

⌚ Due 03 Apr 2024 at 09:00 Central Daylight Time

[Cap 2024 Conference](#)

⌚ Due 03 Apr 2024 at 19:59 Central Daylight Time



Conference List

[My Conferences \(11\)](#)[All Conferences](#)

type to filter...

Name	Start Date	Location	External URL
Welcome to the CMT Site Request Submission System!	1/1/2035		
Tackling Climate Change with Machine Learning: Global Perspectives and Local Challenges	5/1/2023	Kigali, Rwanda	https://www.climatechange.ai/events/iclr2023
Tackling Climate Change with Machine Learning at NeurIPS 2022	11/27/2022	New Orleans, United States	https://www.climatechange.ai/events/neurips2022
ACM/IMS Journal of Data Science	5/29/2022	online, online	http://jds.acm.org
STConf2024	4/1/2022	redmond, usa	http://contoso.com
Faux Site 2023	5/4/2023	redmond, usa	http://contoso.com
Contoso conference 2025	1/1/2024	redmond, usa	http://contoso.com
ASTA2025	1/1/2024	redmond, us	http://contoso.com
Journal of Engineering, Project, and Production Management	1/1/2022	Lawrence, USA	http://www.ppml.url.tw/EPPM_Journal/
International Conference on Green Energy Engineering Systems	11/25/2025	Algiers, Algeria	https://sites.google.com/g.enp.edu.dz/icgees
Conference of the Angels	10/1/2023	redmond, USA	http://contoso.com
MICCAI Satellite Events 2025	9/23/2025	Daejeon, South Korea	http://www.miccai.org/events/upcoming-conferences/
The 24th International Conference on Intelligent Software Methodologies, Tools, and Techniques	9/22/2025	Kitakyushu, Japan	https://www.i-somet.org/somet2025/
The 7th International Conference on Events - Making Waves in Asia: Exploring New Frontiers in Festivals and Events	9/16/2025	Beijing, China	https://makingwavesinevents.org/beijing-2025
Proceedings of the VLDB Volume 18 (for VLDB 2025)	8/23/2025	London, United Kingdom	https://vldb.org/2025/
The 38th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems	7/1/2025	Kitakyushu, Japan	https://www.i-somet.org/iea-aie2025
Power Electronics Converters for Transportation and Energy Applications 2025	6/17/2025	Argul, Jatni, India	https://conference.iitbbs.ac.in/pectea2025/
SIGMOD International Conference on Management of Data (2025)	5/14/2025	Berlin, Germany	http://2025.sigmod.org

Peer Review:

How to be a good reviewer

Plan your time

- Spread it out

30 January 2020	Finish updating your profile on OpenReview
5 March 2020	Paper submission deadline
6 – 15 March 2020	Reviewers bid for papers
3 April – 10 May 2020	Reviewing period
10 May 2020	Reviews due
29 May – 7 June 2020	Discussion period and final recommended due
3 July 2020	Decisions to authors

April 2020						
SU	MO	TU	WE	TH	FR	SA
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May 2020						
SU	MO	TU	WE	TH	FR	SA
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16

- Use arithmetic: $(5 \text{ weeks} - 1 \text{ review}) \div (\# \text{ papers}) = \text{days / paper}$

Review form outline



Summary:

Explain the key ideas, contributions, and their significance.

This is your abstract of the paper.

The summary helps the AC and the authors understand the rest of your review and be confident that *you* understand the paper.



Strengths:

What about the paper provides value? -- interesting ideas that are experimentally validated, an insightful organization of related work, new tools, impressive results, something else?

Most importantly, what can someone interested in the topic learn from the paper?



Weaknesses:

What detracts from the contributions?

Does the paper lack controlled experiments to validate the contributions? Are there misleading claims or technical errors? Is it possible to understand (and ideally reproduce) the method and experimental setups by reading the paper?



Rating and Justification:

Carefully explain why the paper should be accepted or not.

This section should make clear which of the strengths and weaknesses you consider most significant.



Additional comments:

Minor suggestions, questions, corrections, etc. that can help the authors improve the paper.

Not crucial for the overall recommendation.

What should be included in the review?

A concise summary of the paper

What problem is addressed in the paper?
Is it a new problem? If so, why does it matter? If not, why does it still matter?
What is the key to the solution? What is the main contribution?
Do the experiments sufficiently support the claims?

A clear statement of strengths and weaknesses

What are the key contributions and why do they matter?
What aspects of the paper most need improvement?

A comprehensive check of potential fundamental flaws in the paper

Are the assumptions and theories (mathematically) sound?
Are the experiments scientifically sound and valid?
Is the problem addressed trivial?
Did the paper miss **important** prior work? Has it been done before? If yes, where?

[Developed from: Reviewer Slides for ICCV'19]

Anatomy of a Good* Review

Useful feedback, even if not positive

- **Organize your response** - sections for strengths, weaknesses, recommendations.
- **Language/Tone** - write about the paper, not the author(s). And be nice!
- **Justify your response** - if it's been done already, cite that paper. If the writing is unclear, refer to a specific section.
- **Be generous** about giving the authors new ideas for how they can improve their work.
 - You might suggest a new technical tool that could help, a dataset that could be tried, an application area that might benefit from their work, or a way to generalize their idea to increase its impact.

Anatomy of a Good* Review

Useful feedback, even if not positive

the bar for acceptance *is not whatever the reviewer wants.*

Good reviewer:

The bar is ‘good enough for ECCV/CVPR/ICCV’,
as defined by the standards of the field.

Golden question: does this paper do more than anything existing in a particular direction?

Anatomy of a Bad* Review

Useless feedback, even if positive

Examples:

“Strong idea, good results. The explanation of the method could be improved somewhat.”
→ weak reject

“It does not really work. Paper [3] did something like this before, and their results are better. [some minor point X] could be inspiring.”
→ weak accept

“For all the things this paper does well, it falls short of being a great paper.”
→ borderline

“The rebuttal was excellent. I am satisfied. I confirm that this paper should be accepted.”
→ borderline accept (which is < weak accept!)

Anatomy of a Bad* Review

Useless feedback, even if positive

Arrogance

- **Script**
 - Authors: We did A by means of B
 - Reviewer: The only way to do A is through C (i.e., my way or highway)
....
- **Error:** you should know or check

Ignorance

- **Script**
 - Authors: All A are B
 - Reviewer: I do not think all A are B
- **Error:** you should know or check

Inaccuracy

- **Script**
 - Authors: A is a ring, not a field
 - Reviewer: All rings are field
- **Error:** They are NOT

Safe behavior

- Do not provide an opinion on things you do not know about

Anatomy of a Bad* Review

Script 1

- Reviewer: This is not good enough for CVPR 2024
 - Why?

Script 2

- Reviewer: CNN is not that interesting?
 - Why?

Script 3

- Reviewer: Adversarial losses guarantees distribution matches
 - No theoretic proof indeed!

Error

- These remarks are pure opinions and not grounded

Safe behavior

- Check if you grounded your statement with a “because . . .”

Examples of Reviews

Examples of Reviews

From recent conferences

- The following reviews are published in the public domain from ICLR (International Conference on Learning Representations).
 - ICLR format is single narrative, no bullets or sections.
- We can **evaluate the quality of the review alone**:

Review quality: Bad. The review lists only weaknesses and requests for clarification, omitting a summary and justification for decision. Thus, it is unclear to author or AC which of these points are the primary basis for the rating.

Rating: 4: Ok but not good enough - rejection

Review: 1. The idea of multi-level binarization is not new. The author may have a check at Section "Multiple binarizations" in [a] and Section 3.1 in [b]. The author should also have a discussion on these works.

2. For the second contribution, the authors claim "Temperature Adjustment" significantly improves the convergence speed. This argument is not well supported by the experiments.

I prefer to see two plots: one for Binarynet and one for the proposed method. In these plot, testing accuracy v.s. the number of epoch (or time) should be shown. The total number of epochs in Table 2 does not tell anything.

3. Confusing in Table 2. In ResBinNet, why 1-, 2- and 3- level have the same size? Should more bits required by using higher level?

4. While the performance of the 1-bit system is not good, we can get very good results with 2 bits [a, c]. So, please also include [c] in the experimental comparison.

5. The proposed method can be trained end-to-end. However, a comparison with [b], which is a post-processing method, is still needed (see Question 1).

6. Could the authors also validate their proposed method on ImageNet? It is better to include GoogleNet and ResNet as well.

7. Could the authors make tables and figures in the experiment section large? It is hard to read in current size.

Reference

[a] How to Train a Compact Binary Neural Network with High Accuracy. AAAI 2017

[b] Network Sketching: Exploiting Binary Structure in Deep CNNs. CVPR 2017

[c] Trained Ternary Quantization. ICLR 2017

<https://openreview.net/forum?id=SJtfOEn6-¬eId=HkG6r4Kgf>

+ Cites papers that make the idea "not new"
- Does not say how these methods relate, so it is not clear if they are very similar techniques

- Because it is not tested by experiments, or that the convergence speed is not different?

- The remaining points may help authors improve the paper, but it is not clear if they are a significant factor in the rating to reject

Big problems:

- AC can't make good use of the review without reading the paper, due to lack of summary/justification.
- No strengths listed, which may indicate that reviewer is just looking for reasons to reject.
- Author and AC don't know which of the listed points are important for reject rating.

Review Quality: OK but not great. Makes general factors in decision clear and provides detailed feedback to authors, but does not provide adequate explanation for strengths and weaknesses

Rating: 8: Top 50% of accepted papers, clear accept

The paper proposes a framework for constructing spherical convolutional networks (ConvNets) based on a novel synthesis of several existing concepts. The goal is to detect patterns in spherical signals irrespective of how they are rotated on the sphere. The key is to make the convolutional architecture rotation equivariant.

Pros:

- + novel/original proposal justified both theoretically and empirically
- + well written, easy to follow
- + limited evaluation on a classification and regression task is suggestive of the proposed approach's potential
- + efficient implementation

Cons:

- related work, in particular the first paragraph, should compare and contrast with the closest extant work rather than merely list them
- evaluation is limited; granted this is the nature of the target domain

Presentation:

- * While the paper is generally written well, the paper appears to conflate the definition of the convolutional and correlation operators? This point should be clarified in a revised manuscript.
- * In Section 5 (Experiments), there are several references to S²CNN. This naming of the proposed approach should be made clear earlier in the manuscript. As an aside, this appears a little confusing since convolution is performed first on S² and then SO(3).

Evaluation:

- * What are the timings of the forward/backward pass and space considerations for the Spherical ConvNets presented in the evaluation section? Please provide specific numbers for the various tasks presented.
- * How many layers (parameters) are used in the baselines in Table 2? If indeed there are much less parameters used in the proposed approach, this would strengthen the argument for the approach. On the other hand, was there an attempt to add additional layers to the proposed approach for the shape recognition experiment in Sec. 5.3 to improve performance?

Minor Points:

- some references are missing their source, e.g., Maslen 1998 and Kostolec, Rockmore, 2007, and Ravanbakhsh, et al. 2016.
- [abridged minor points due to lack of space in this slide]
- Figure 5, caption: "The red dot correpond to" --> "The red dot corresponds to"

Final remarks:

Based on the novelty of the approach, and the sufficient evaluation, I recommend the paper be accepted.

+ Highlights key ideas and contributions.

- The summary should also include one sentence on experimental setup
- Summary should include one sentence on significance of the contribution

+ Itemizes strengths and weaknesses

- Does not provide enough detail. E.g., what is original about the paper? How is the evaluation limited?

+ Includes clarifications questions and constructive feedback for authors

- + Makes it clear that “Minor Points” are not an important factor in decision

+ Identifies key positive factors in rating

- Would have been better to say why the weaknesses are given less weight

<https://openreview.net/forum?id=Hkbd5xZRb>

Review quality: Good. Though missing a summary of contribution, the review clearly explains why the paper should be accepted

(Note: this was a late-added review, which may account for brevity)

Rating: 9: Top 15% of accepted papers, strong accept

Review: First off, this paper was a delight to read. The authors develop an (actually) novel scheme for representing spherical data from the ground up, and test it on three wildly different empirical tasks: Spherical MNIST, 3D-object recognition, and atomization energies from molecular geometries. They achieve near state-of-the-art performance against other special-purpose networks that aren't nearly as general as their new framework. The paper was also exceptionally clear and well written.

The only con (which is more a suggestion than anything)--it would be nice if the authors compared the training time/# of parameters of their model versus the closest competitors for the latter two empirical examples. This can sometimes be an apples-to-oranges comparison, but it's nice to fully contextualize the comparative advantage of this new scheme over others. That is, does it perform as well and train just as fast? Does it need fewer parameters? etc.

I strongly endorse acceptance.

- + Clearly explains why the paper should be accepted – Does not contain many details about the contribution or why it is novel, so relies on the AC trusting the reviewer's judgment on these points

Note: though the proposed method does not achieve the best results (according to the review), the paper is highly valued for proposing a more general framework. Achieving best results is not necessary to validate the key idea (e.g., generality by testing with diverse datasets, or including an ablation study that isolates the impact of the key idea).

- + Indicates that the reviewer tried to think of weaknesses but could not come up with anything that should negatively impact the paper rating
- + Constructive feedback for the authors

<https://openreview.net/forum?id=Hkbd5xZRb>

Q&A

Wrap-Up

Tuesday

- Understand the peer review process for publishing research
- Learn from expert(s) in diverse fields within CS
- To Do:
 - Guest Lecture Survey (*in-class Thursday*)

See you Thursday!

Guest Research Lecture:
Dr. Ke Yang

Wrap-Up

Thursday

- Understand the peer review process for publishing research
- Learn from expert(s) in diverse fields within CS
- To Do:
 - Guest Lecture Survey (*in-class Thursday*)

See you next week!