

A sunset scene with palm trees and a building silhouette reflected in water. The sky is a mix of orange, yellow, and dark blue. The water in the foreground is dark and reflects the silhouettes of the palm trees and the building.

WELCOME TO ICLR 2017!!

**Marc'Aurelio Ranzato
Senior Program Chair**

Toulon - April 24-26, 2017

The Team

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Yoshua Bengio



Yann LeCun

Program Chairs



Tara Sainath



Oriol Vinyals



Hugo Larochelle

Local Organization Chair



Herve Glotin

The Team

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- Alexander Rush
- Anima Anandkumar,
- Chris Pal
- David Duvenaud
- Devi Parikh
- Dhruv Batra
- Edward Grefenstette
- George Dahl
- Graham Taylor
- Iain Murray
- Ivan Titov
- Zico Kolter
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- Laurens van der Maaten
- Mark Schmidt
- Matthias Bethge
- Michiel van de Panne
- Navdeep Jaitly
- Noah Smith
- Raia Hades'
- Rich Zemel
- Sanja Fidler
- Sergey Levine
- Shakir Mohamed
- Slav Petrov
- Vikas Sindhwani
- Y-Lan Boureau
- Zaid Harchaoui

300+ Reviewers

ICLR 2017 - Conference Track
International Conference on Learning Representations
Toulon, France, April 24 - 26, 2017
http://www.iclr.cc

Please see the venue website for more information.

OpenReview

Paper decision: Accept (Oral)

Making Neural Programming Architectures Generalize via Recursion

Jonathan Borchers, Dawn Song
05 Nov 2016 ICLR 2017 conference submission readers: everyone 12 Replies



Andrew MacCallum

Enriched Image Compression
Johannes Lehner, Valero Laparra, Eero P. Simoncelli
05 Nov 2016 ICLR 2017 conference submission readers: everyone 16 Replies
ICLR 2017 Conference Oral



Melisa Bok

Open Model for Few-Shot Learning
Sachin Goyal, Chelsea
04 Nov 2016 ICLR 2017 conference submission readers: everyone 17 Replies

Learning End-to-End Goal-Oriented Dialog
Antoine Bordes, Y-Lan Boureau, Jason Weston
04 Nov 2016 ICLR 2017 conference submission readers: everyone 17 Replies



Michael Spector

Top Methods for Training Generative Adversarial Networks
Mehdi Mirza, Mehdi Mirza
04 Nov 2016 ICLR 2017 conference submission readers: everyone 28 Replies

Reinforcement Learning with Unsupervised Auxillary Tasks

Max Jaderberg, Volodymyr Mnih, Wojciech Marian Czarnecki, Tom Schaul, Joel Z Leibo, David Silver, Koray Kavukcuoglu
04 Nov 2016 ICLR 2017 conference submission readers: everyone 23 Replies
ICLR 2017 Conference Oral

?

Pamela Mandler

Multi-Agent Cooperation and the Emergence of (Natural) Language

Angeliki Lazaridou, Alexander Peysakhovich, Marco Baroni
04 Nov 2016 ICLR 2017 conference submission readers: everyone 14 Replies
ICLR 2017 Conference Oral

Abstract: We describe an image compression method, consisting of a nonlinear analysis transformation, a uniform quantizer, and three successive stages of convolutional linear filters and nonlinear activation functions. Unlike most convolutional methods, control, inspired by those used to model biological neurons. Using a variant of stochastic gradient descent, we jointly optimize the training images, introducing a continuous proxy for the discontinuous loss function arising from the quantizer. Under the assumption of a generative model, as implemented by a variational autoencoder. Unlike these models, however, the compression is a trade-off between rate and distortion on an independent set of test images, we find that the optimized method generally exhibits superior performance. More importantly, we observe a dramatic improvement in visual quality for all images at all bit rates. **Confidence:** 5: The reviewer is confident but not absolutely certain that the evaluation is correct. **Keywords:** image compression, variational autoencoder, stochastic gradient descent, image quality, visual quality. **Authors:** Johannes Lehner, Valero Laparra, Eero P. Simoncelli

Very interesting results

Jeremy Noring
19 Feb 2017 ICLR 2017 conference public review readers: everyone
Rating: 7: Good paper, accept
Review: Two things I'd like to see.

1) Specifics about the JPEG and JPEG2000 implementations used, and how they were configured. One major weakness is that the reviewer does not include specific encoders and configuration used in comparisons. Without knowing this, it's hard to know if the results are suitably strong JPEG implementation that was properly configured, for example.

2) The comparison to JPEG2000 is unfortunately not that interesting, since that coder does not have widespread usage. A more interesting comparison would be with WebP performance. Or, even better, both.

Very nice results. Is a software implementation of this available to play with?
Confidence: 4: The reviewer is confident but not absolutely certain that the evaluation is correct

ICLR committee final decision

ICLR 2017 PCs
06 Feb 2017 ICLR 2017 conference acceptance readers: everyone
Comment: This is one of the two top papers in my stack and I recommend it for oral presentation. The reviewers were knowledgeable of the topic.
Decision: Accept (Oral)

Revised paper uploaded

Johannes Ballé
10 Jan 2017 ICLR 2017 conference public comment readers: everyone
Comment: We have uploaded a revised version of the paper. Major changes are as follows:

* Introduction/Discussion: we've made some adjustments to the text, further motivating the use of MSE (instead of PSNR) and that the addition of uniform noise is used only for optimization (all compression results are based on quantized and reconstructed images, not on the visual appearance of the compressed results).

* Images: we've now run tests on additional images, including the "classic" examples (Barbara, Lena, Mandrill, Pappas, and other photographs). All examples have been added to the online set, which has been consolidated at http://www.cns.nyu.edu/~jballer. Results on the Kodak set are unchanged from those uploaded at the time of initial submission. We've also made a few changes to the images shown in the paper.

* Adaptive entropy coder: we've added some details about the entropy coder to the appendix, and have included a comparison of the entropy estimate.

* Averaged rate-distortion comparison: The averaged R-D curves originally shown in fig 5 was meant to provide a summary of performance, but we had been concerned from the outset that performance is quite variable across images, and that there's no well-

The Team

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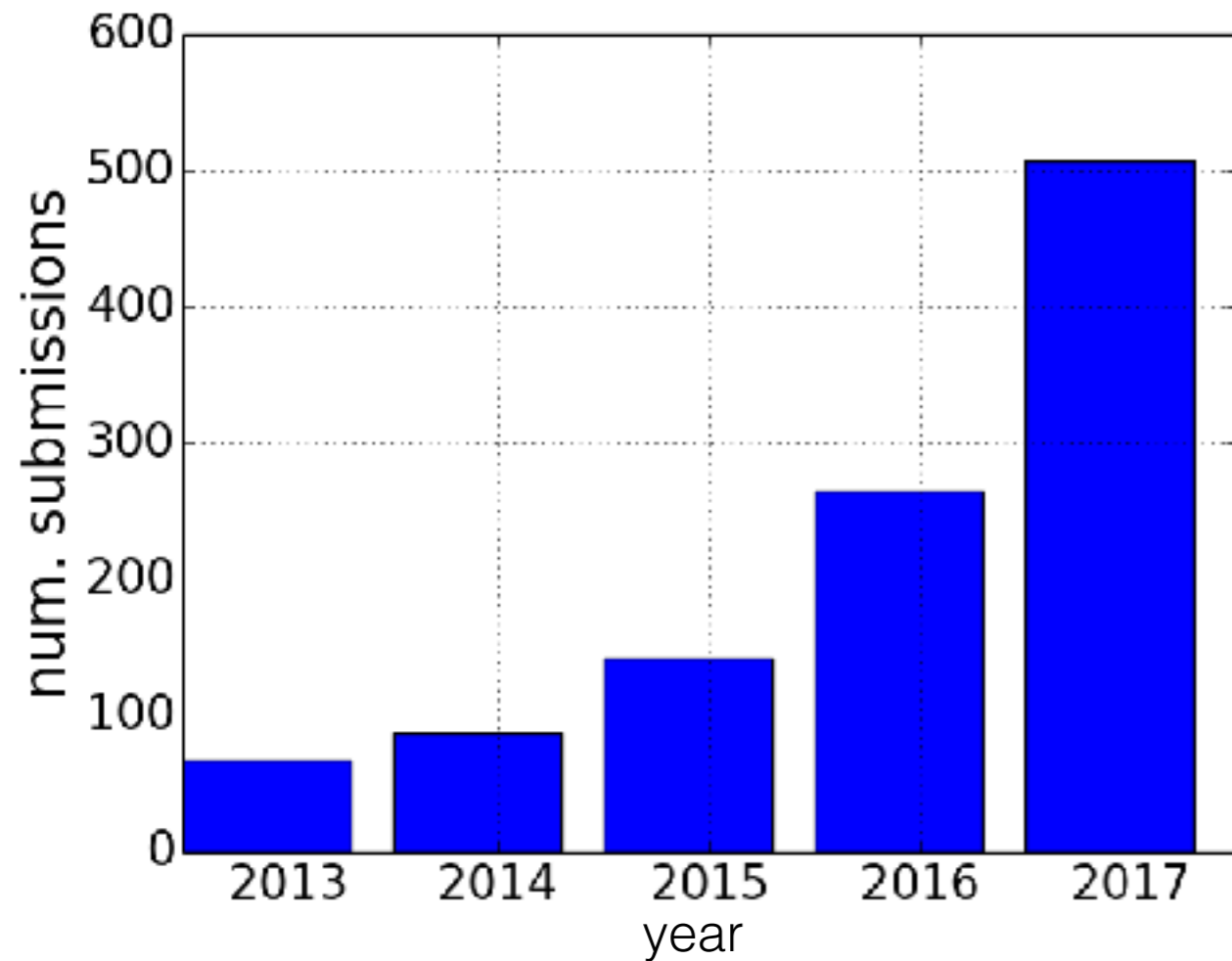
Silver



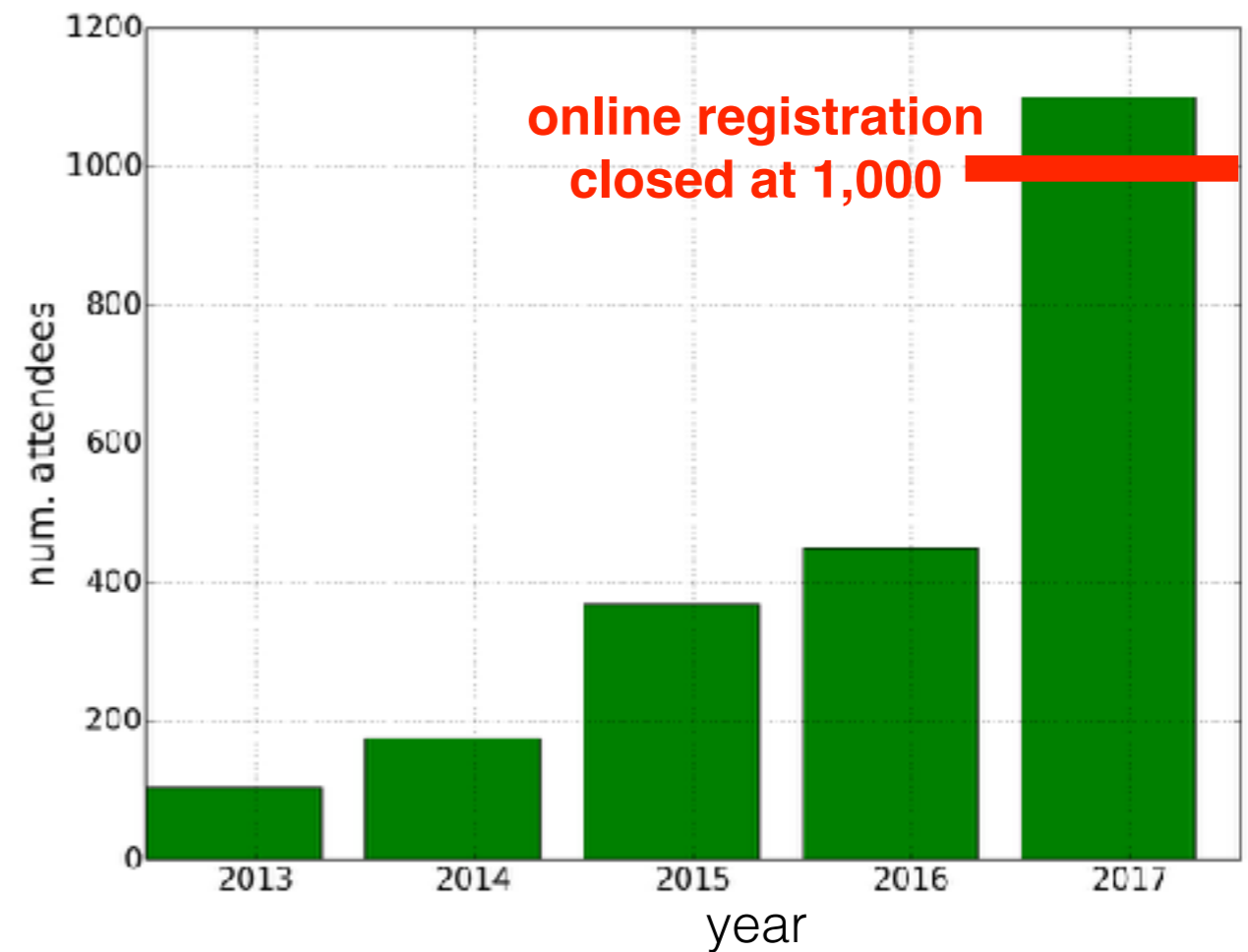
Bronze



ICLR 2017 Stats



(not including workshop abstracts)

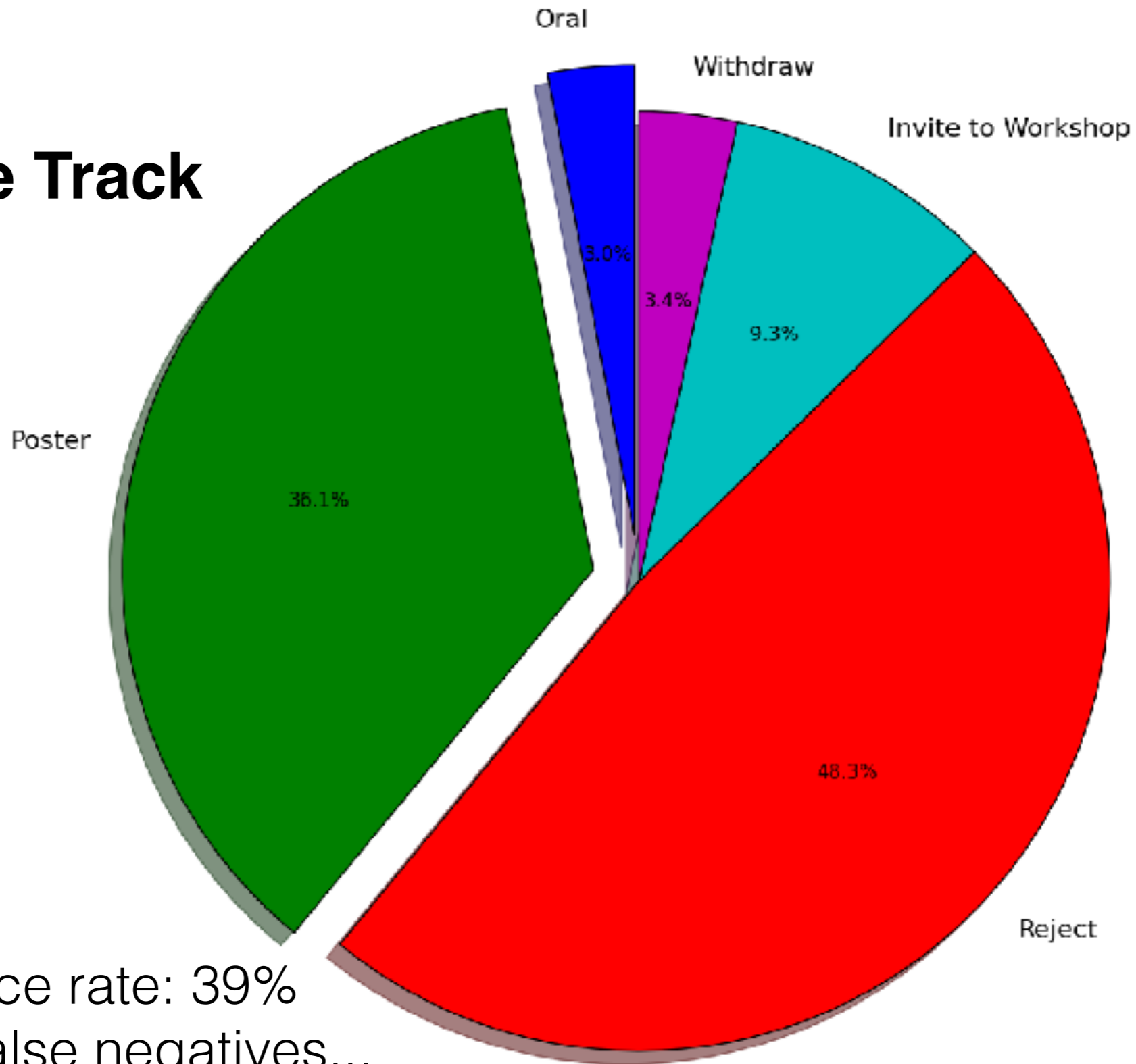


2017 registration closed before early deadline!

exponential growth!!

ICLR 2017 Stats

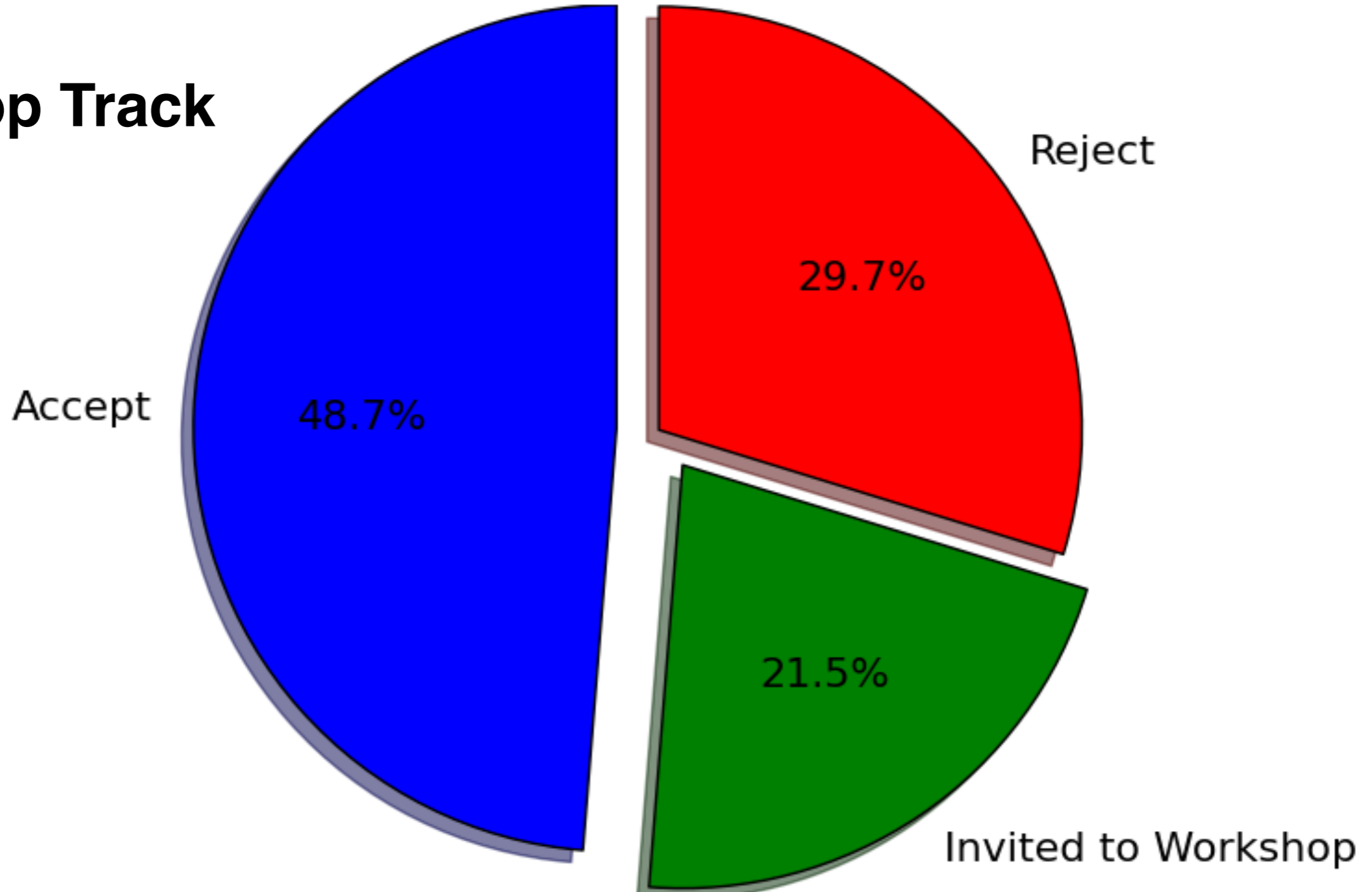
Conference Track

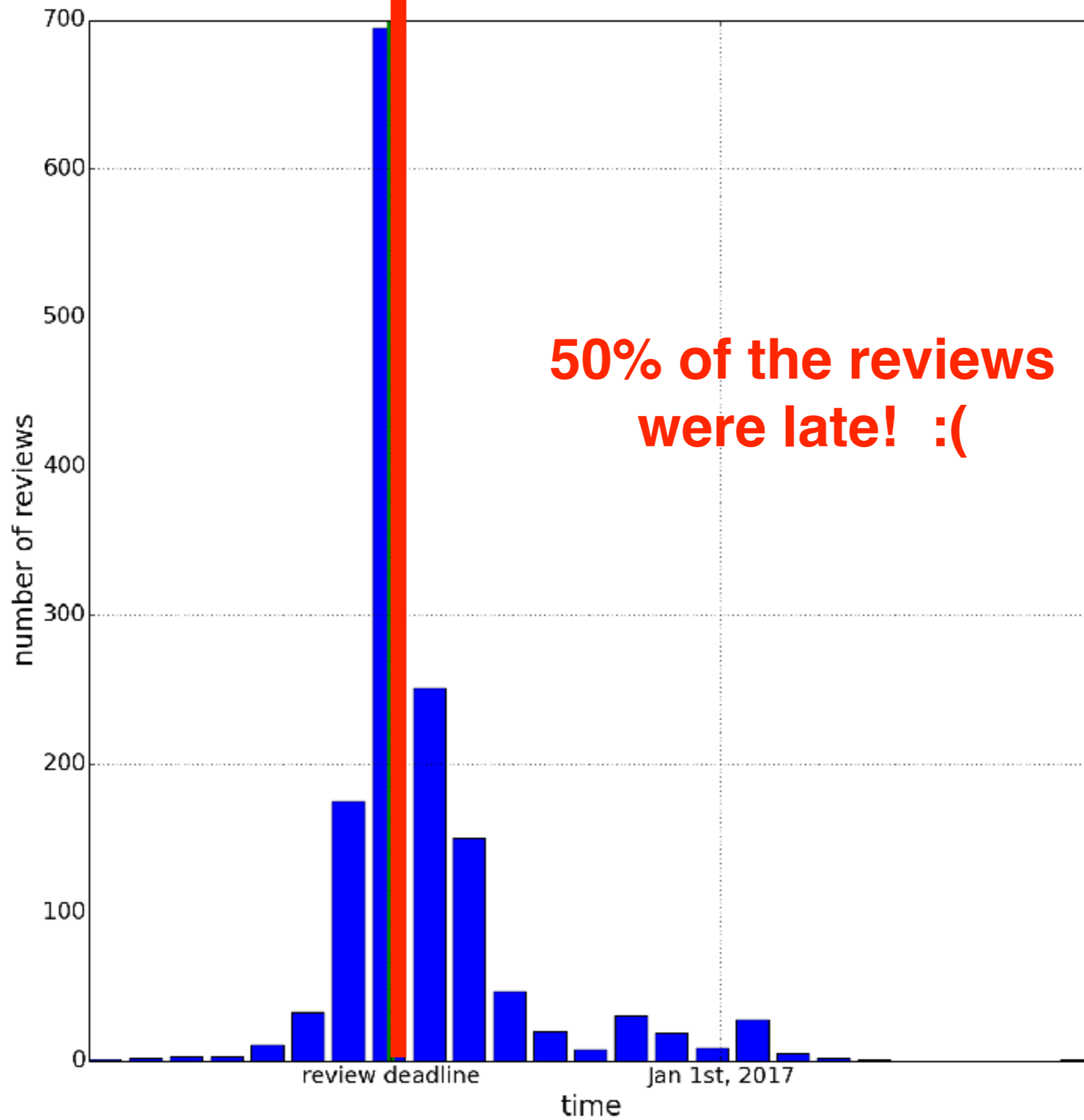


High acceptance rate: 39%
Goal: reduce false negatives...

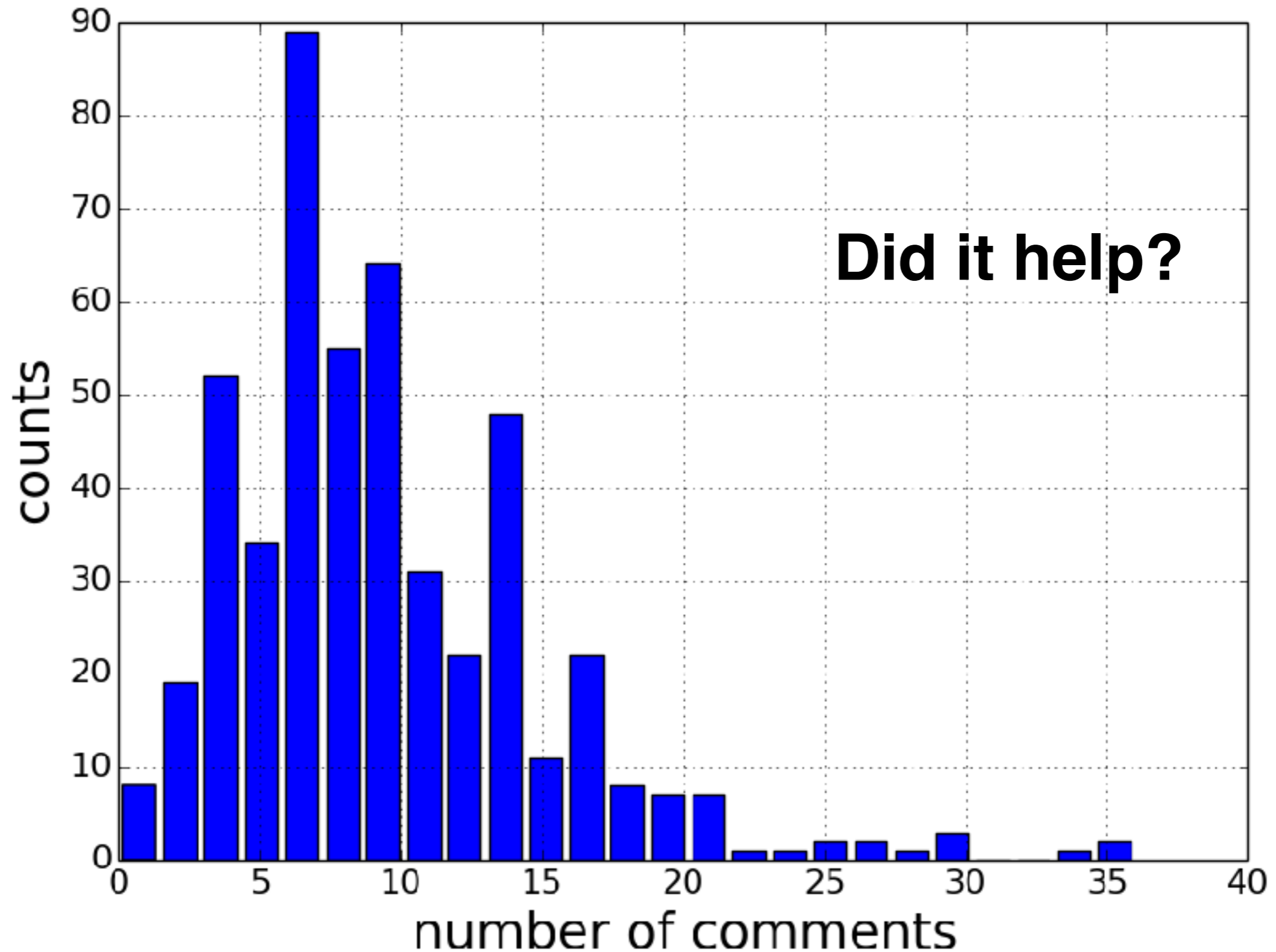
ICLR 2017 Stats

Workshop Track

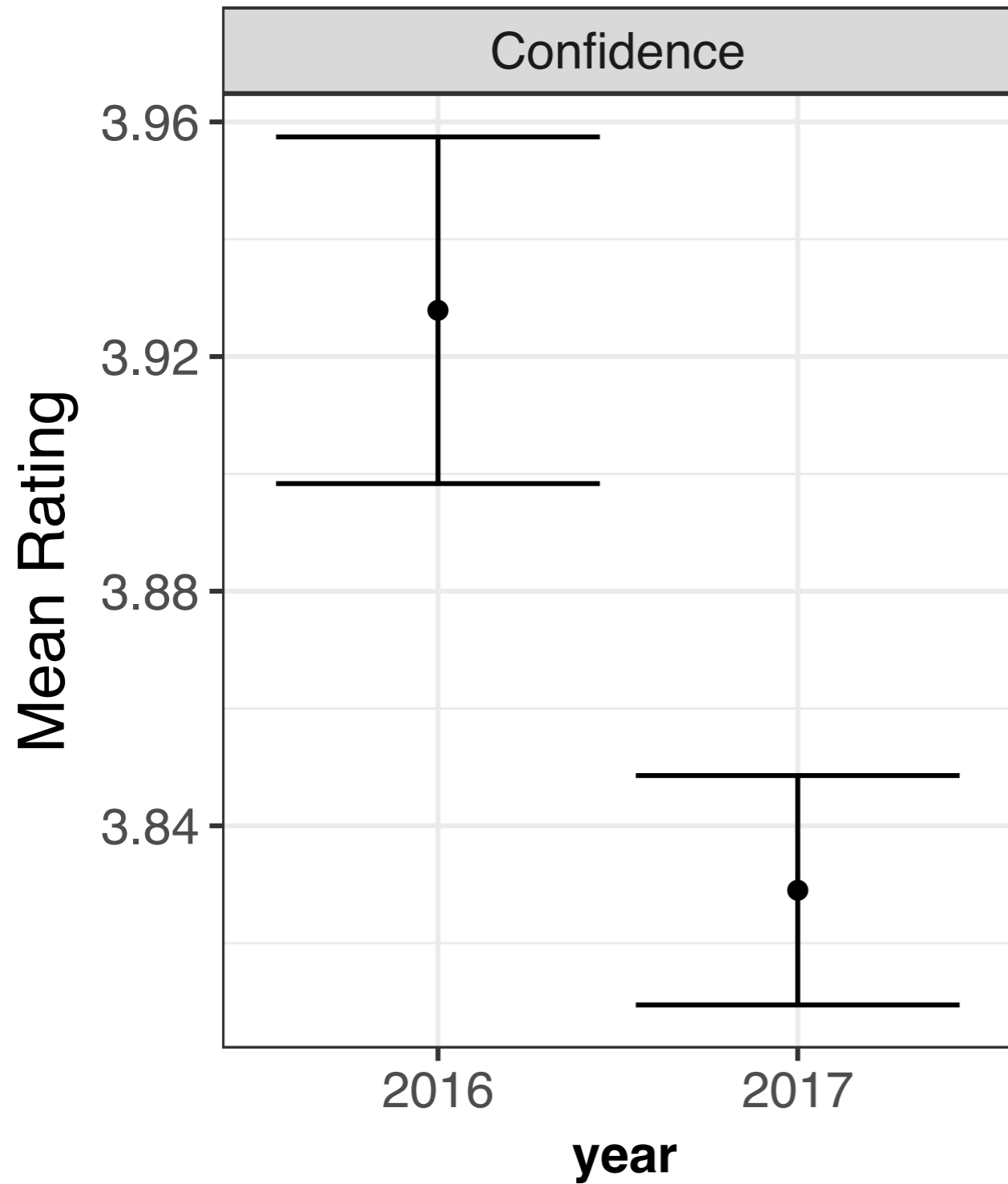




**Lots of comments on papers
thanks to OpenReview platform.**



Summary Statistics of ICLR Reviews

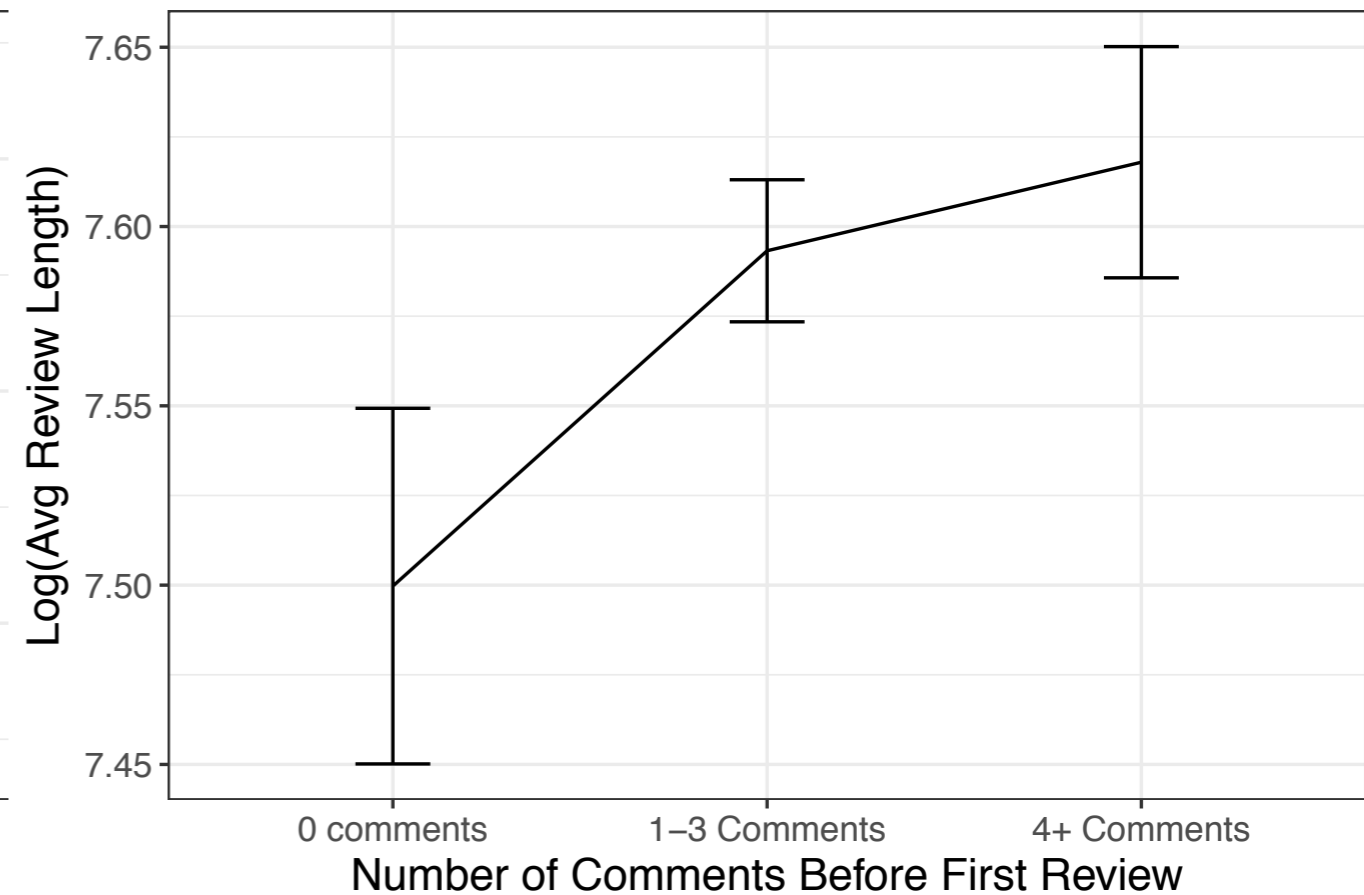
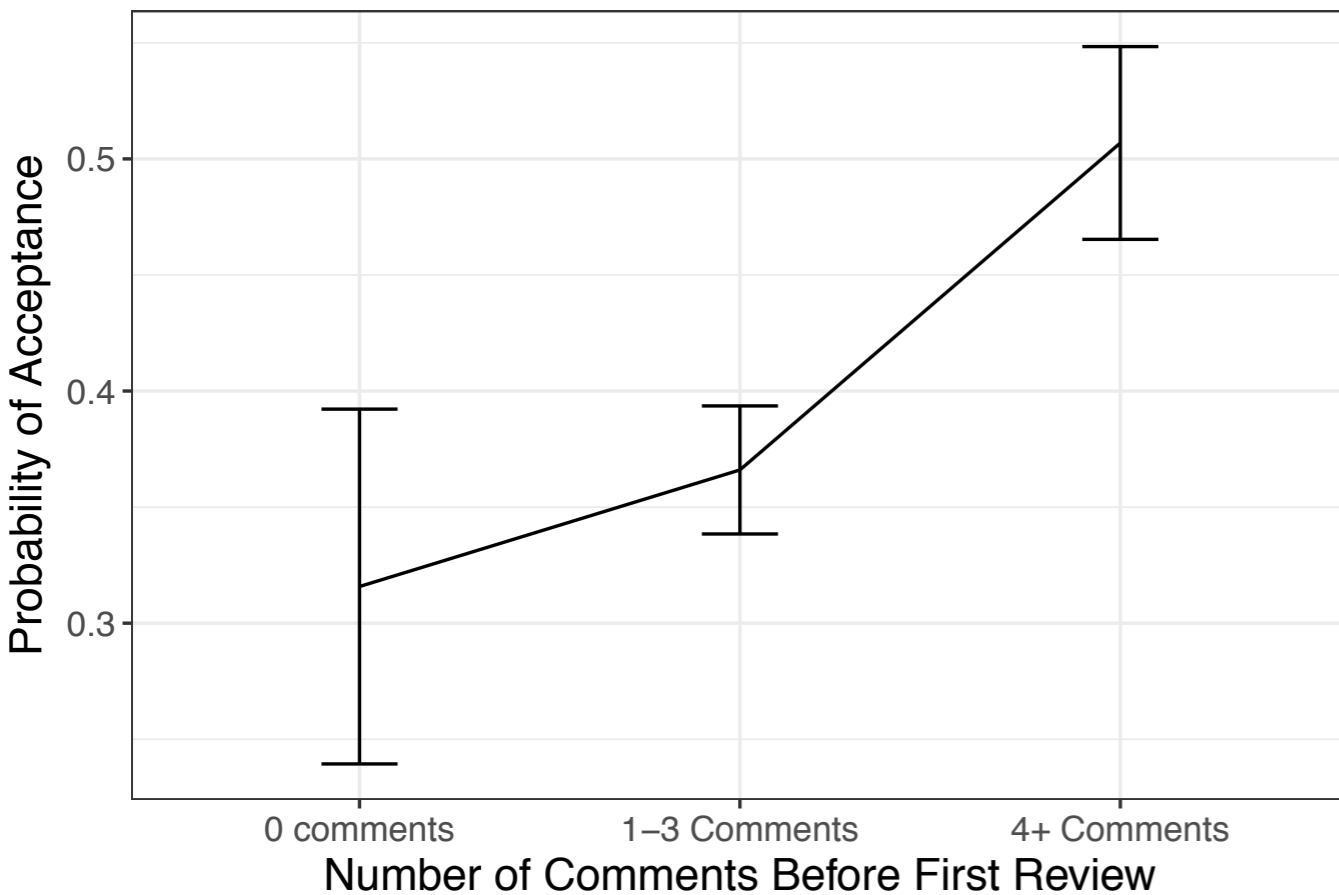


Reviewers did not get more confident!
Note: reviewers and papers are different.

credit: Alex Peysakhovich



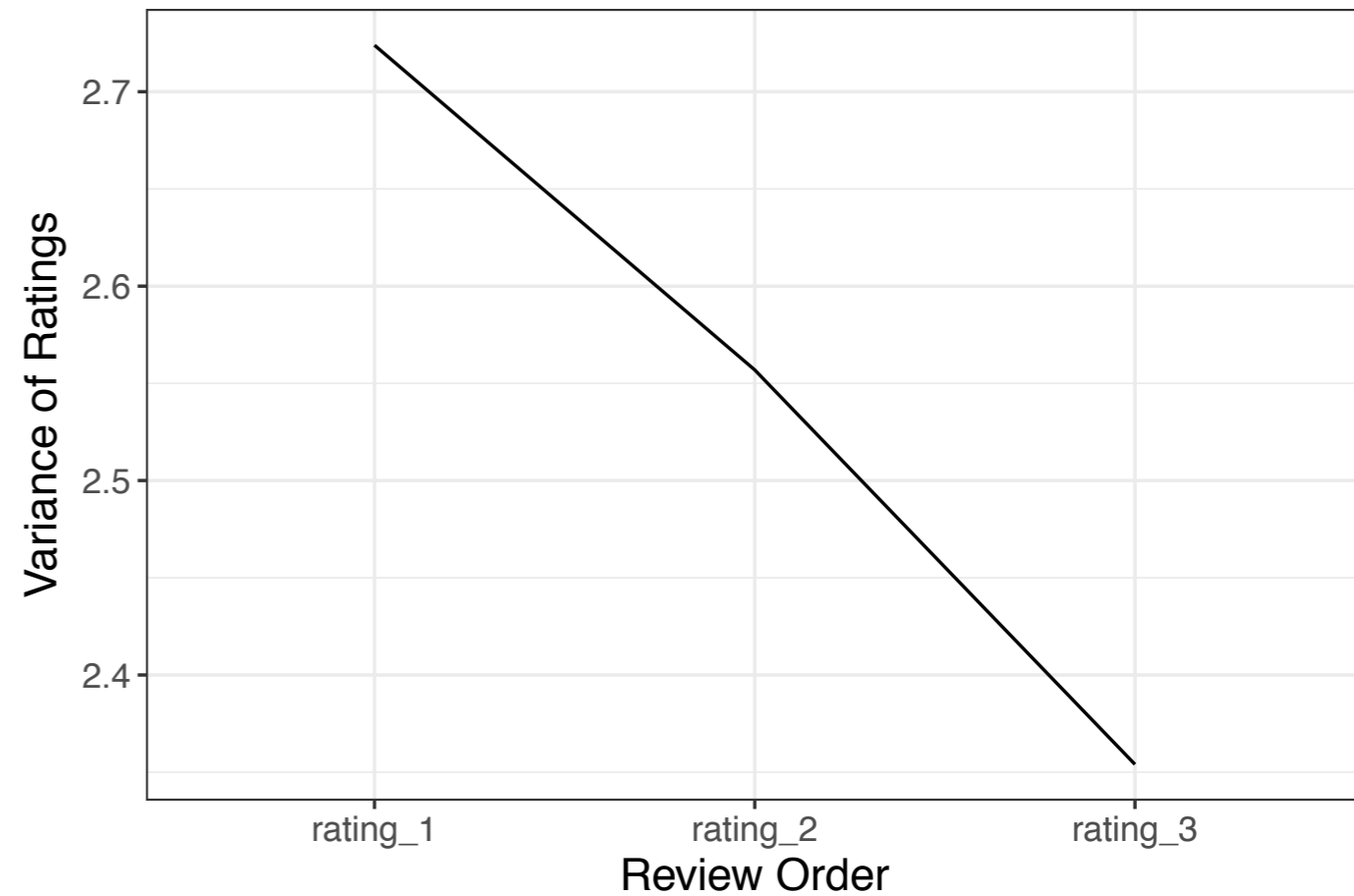
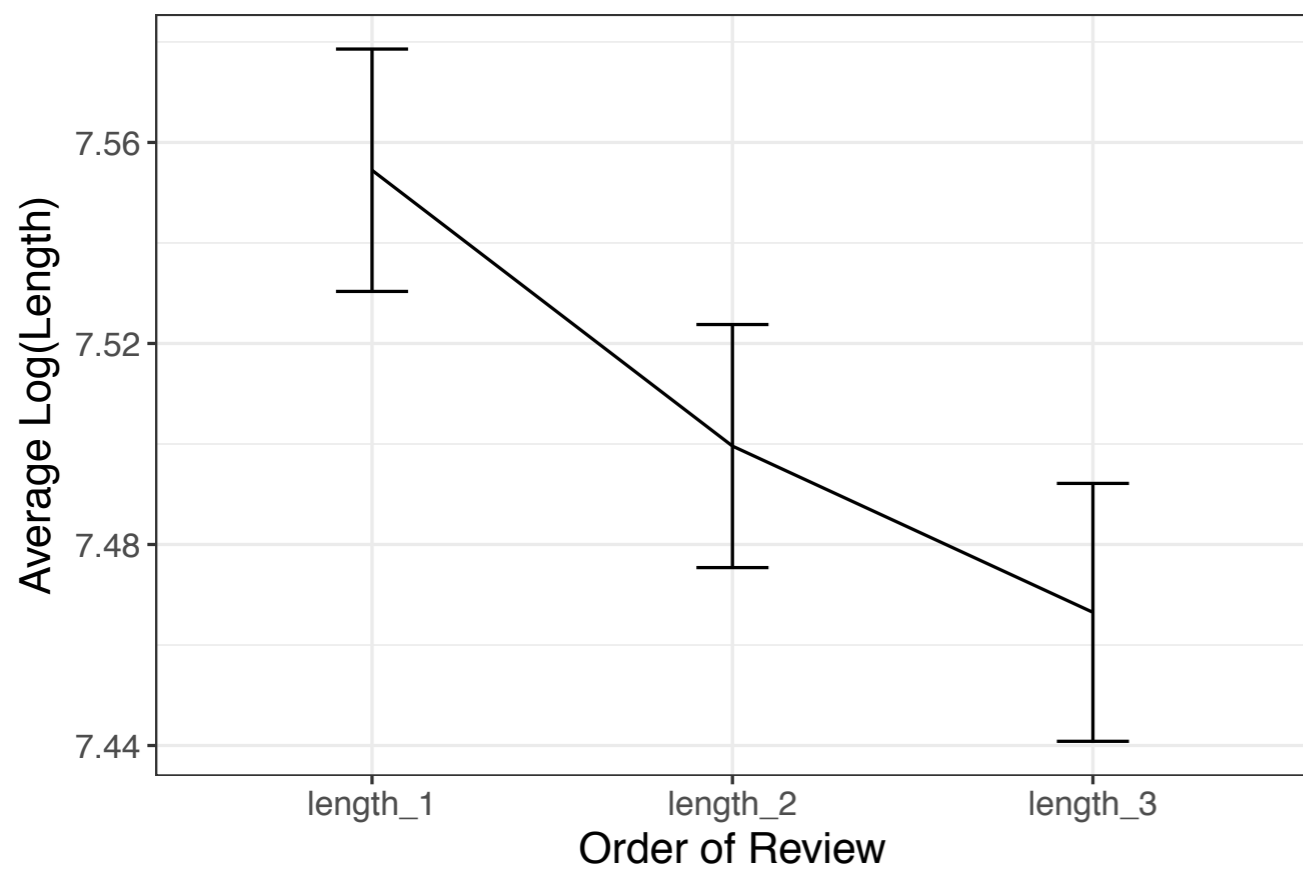
Papers that get more discussion are more likely to get accepted and get longer reviews.



credit: Alex Peysakhovich



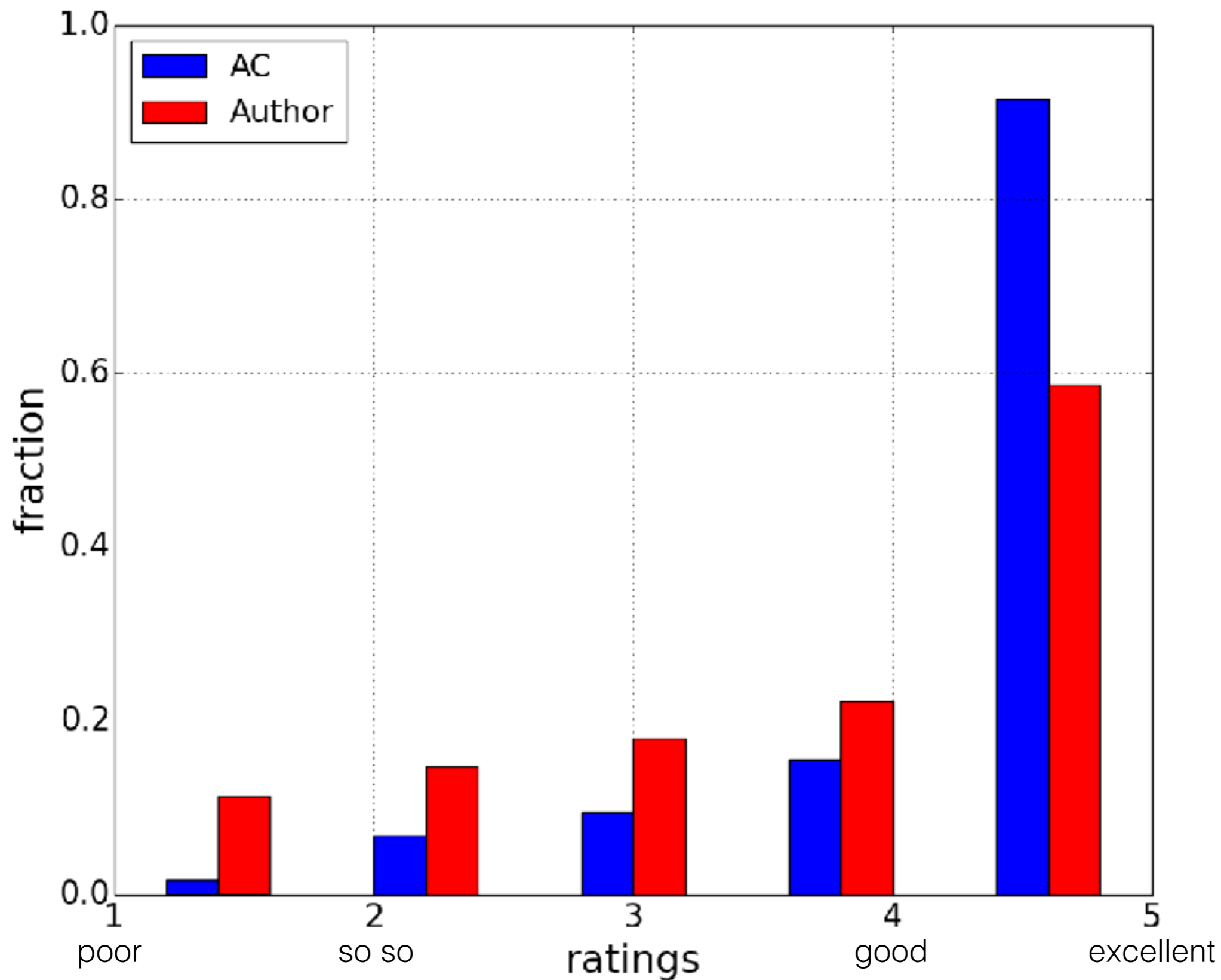
Bad news: There is some evidence of laziness (later reviews are shorter) and herding :(



credit: Alex Peysakhovich



Ratings of reviews/reviewers from AC and authors



ICLR 2017 Awards

- 3 Best Paper Awards:
 - **Understanding deep learning requires rethinking generalization**, *C. Zhang, S. Bengio, M. Hardt, B. Recht, O. Vinyals*
 - **Semi-supervised knowledge transfer for deep learning with private training data**, *N. Papernot, M. Abadi, U. Erlingsson, I. Goodfellow, K. Talwar*
 - **Making neural programming architectures generalize via recursion**, *J. Cai, R. Shin, D. Song*
- 15 Best Review Award. Corresponding reviewers:
 - *P. Agrawal, A. Berahas, J. Bergstra, T. Cohen, R. Girshick, F. Hutter, B. Kingsbury, J. Kwok, C. Lassner, B. Neyshabur, E. Oyallon, V. Ramanathan, A. Saxe, J.T. Springerberg, A. Storkey*
- 66 Student Travel Awards

Group Photo: Tuesday @6pm

entrance to stadium from the lobby

Sun Light of 6:30 pm

ICLR 14 ranks x (70 to 90) = 1120

Door for direct access

NEPTUNE bulding



Information

- **WiFi:**
 - name: palais-neptune
 - password: neptune83
- Schedule and more at: iclr.cc
- Questions: ask volunteers or any of us!

A scenic sunset photograph featuring silhouettes of palm trees and mountains against a vibrant orange and yellow sky. The scene is reflected in a body of water in the foreground. The text "Enjoy ICLR 2017!!" is overlaid in white, bold font across the middle of the image.

Enjoy ICLR 2017!!