

How to Be a Good AI Researcher

Tao LIN

October 15, 2024



① How to Write a Great Research Paper?

- A General Guideline
- How to Write the Introduction?
- How to Write Papers That Are Easy to Read?
- Tips to Create a Good Table

② How to Write a Rebuttal for a Conference?

③ Summary

Course schedule

Week	Date	Topics
1	2024. Sep. 03	Introduction to CS & AI
2	2024. Sep. 10	How to communicate
3	2024. Sep. 14	How to do presentation
4	2024. Sep. 24	How to be a good AI researcher (I): doing research
5	2024. Oct. 08	How to be a good AI researcher (II): productivity and career
6	2024. Oct. 15	How to be a good AI researcher (III): academic paper writing and peer reviews
7	2024. Oct. 22	Sharing the experience of writing excellent academic papers and rebuttal
8	2024. Oct. 29	Practice course

Acknowledgement

- Awesome Tips, Jiabin Huang
- How to write a rebuttal for a conference?, Jiabin Huang
- Responding to peer review, Matt Might
- How to write an author response to *ACL/EMNLP reviews
- How to Write a Great Research Paper,

Table of Contents

1 How to Write a Great Research Paper?

- A General Guideline
- How to Write the Introduction?
- How to Write Papers That Are Easy to Read?
- Tips to Create a Good Table

2 How to Write a Rebuttal for a Conference?

3 Summary

Table of Contents

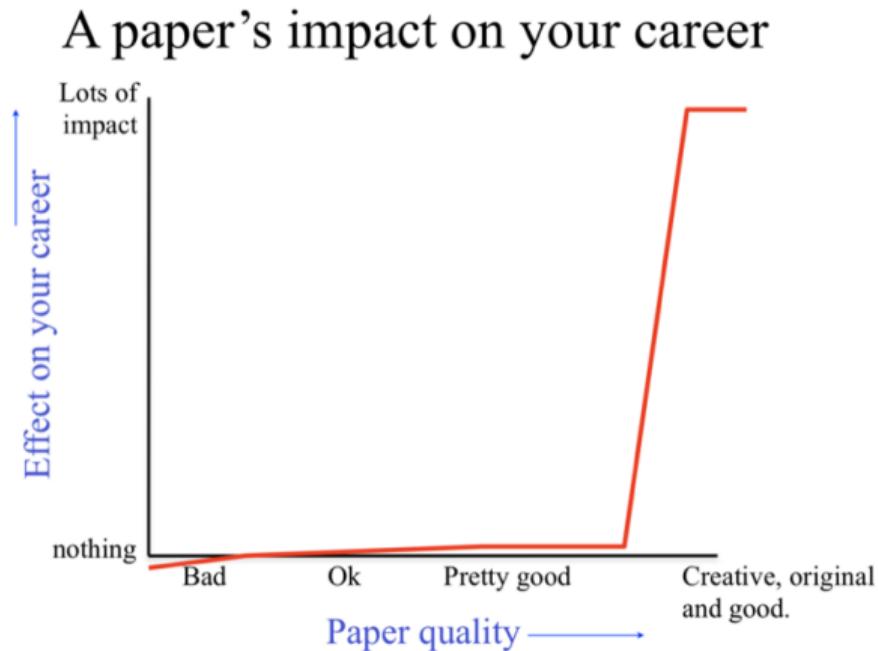
1 How to Write a Great Research Paper?

- A General Guideline
- How to Write the Introduction?
- How to Write Papers That Are Easy to Read?
- Tips to Create a Good Table

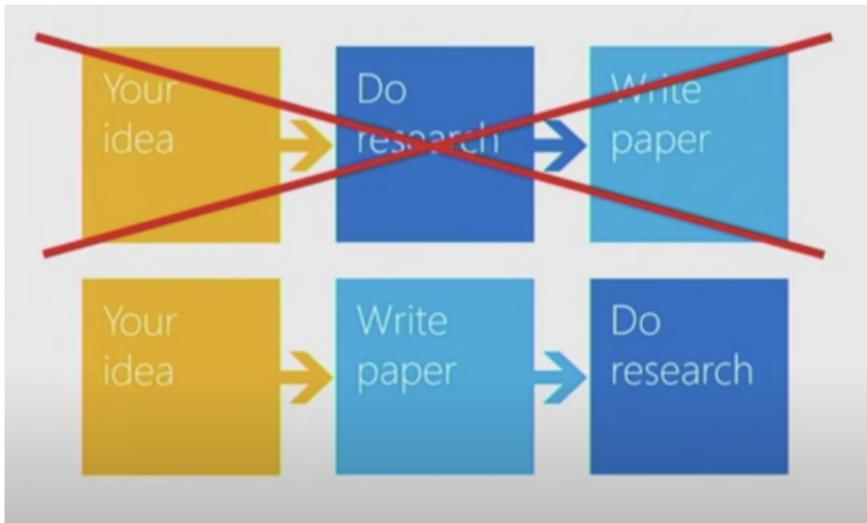
2 How to Write a Rebuttal for a Conference?

3 Summary

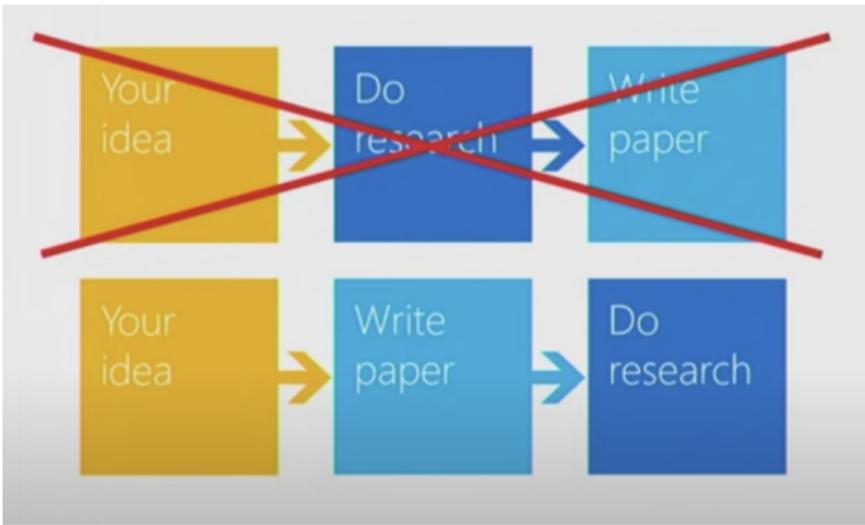
Why we need a great paper



General suggestions: Don't wait, start writing!

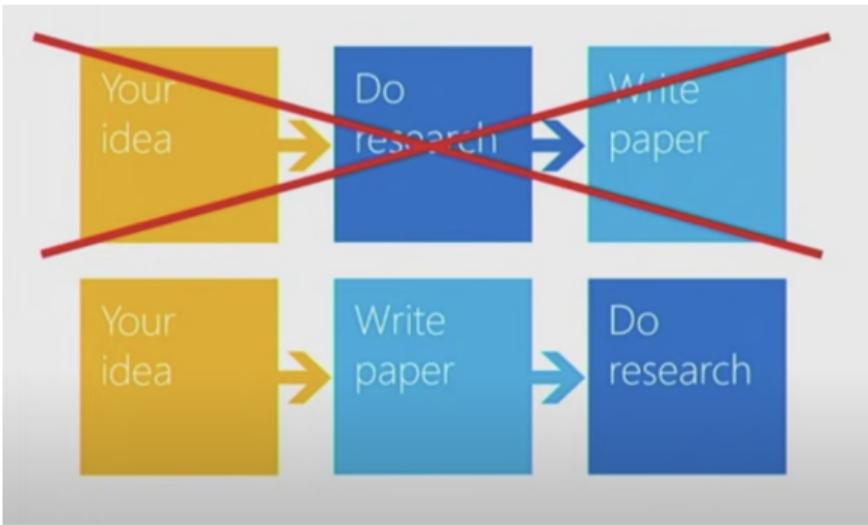


General suggestions: Don't wait, start writing!



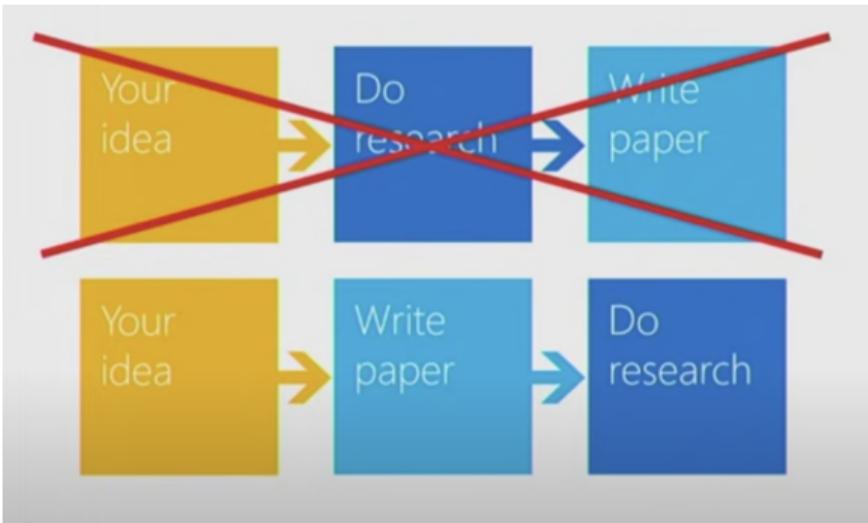
- Forces us to be clear, focused

General suggestions: Don't wait, start writing!



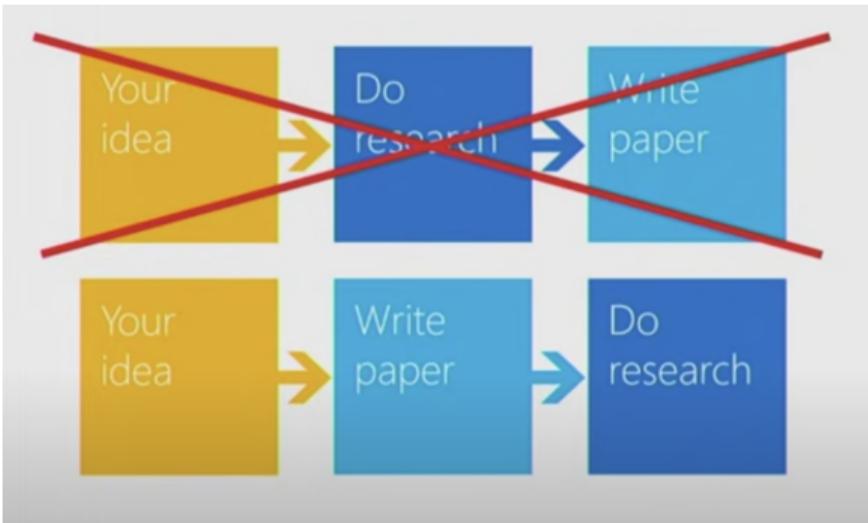
- Forces us to be clear, focused
- Crystallizes what we don't understand

General suggestions: Don't wait, start writing!



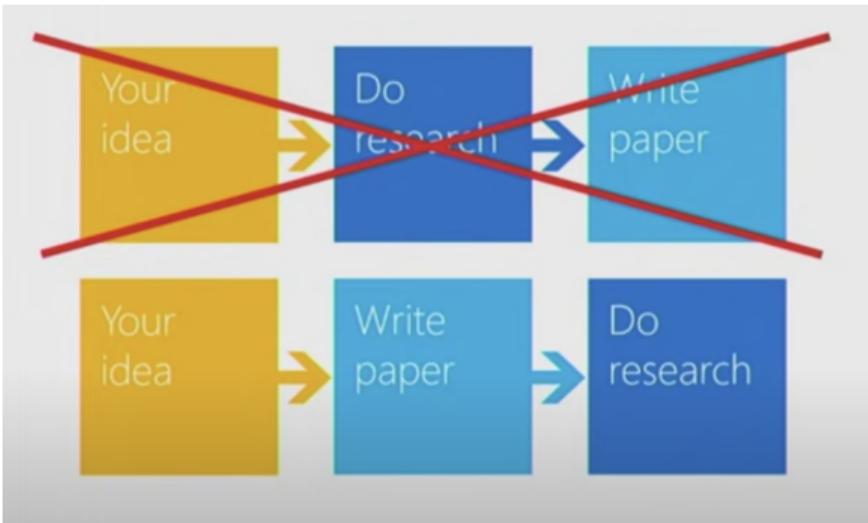
- Forces us to be clear, focused
- Crystallizes what we don't understand
- Opens the way to dialogue with others:

General suggestions: Don't wait, start writing!



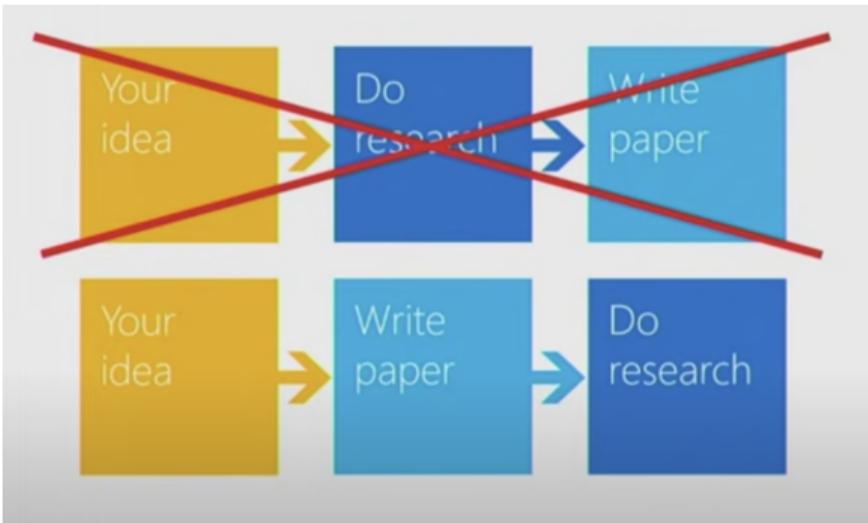
- Forces us to be clear, focused
- Crystallizes what we don't understand
- Opens the way to dialogue with others:
 - reality check,

General suggestions: Don't wait, start writing!



- Forces us to be clear, focused
- Crystallizes what we don't understand
- Opens the way to dialogue with others:
 - reality check,
 - critique,

General suggestions: Don't wait, start writing!



- Forces us to be clear, focused
- Crystallizes what we don't understand
- Opens the way to dialogue with others:
 - reality check,
 - critique,
 - and collaboration

General suggestions: Identify your idea

Your paper should have just one ping: ***one clear, sharp idea***

General suggestions: Identify your idea

Your paper should have just one ping: ***one clear, sharp idea***

- You may not know exactly what the *ping* is when you start writing

General suggestions: Identify your idea

Your paper should have just one ping: ***one clear, sharp idea***

- You may not know exactly what the *ping* is when you start writing
- But you must know when you finish

General suggestions: Identify your idea

Your paper should have just one ping: ***one clear, sharp idea***

- You may not know exactly what the *ping* is when you start writing
- But you must know when you finish
- If you have lots of ideas, write lots of papers

General suggestions: Identify your idea

Your paper should have just one ping: ***one clear, sharp idea***

- You may not know exactly what the *ping* is when you start writing
- But you must know when you finish
- If you have lots of ideas, write lots of papers
- Be 100% explicit about the idea

A recap on *how to do experiments: why, what, and how!*

- Why?
 - Your goal of experiments should be to validate/test your research questions.
- What? (experiments should we do)
 - identify key research questions
 - break them down into baby steps
 - design experiments that best answer those questions
- How?
 - One thing at a time: *the goal of your experiment is to test a hypothesis → control your variables!*
 - Anticipate the results!: *Learn to predict the outcome before you do the experiments*
 - Start with a baseline
 - Document everything: *Use your brain to think, reason, and not store tedious information*
 - Ask for feedback

General suggestions: Tell a story

Imagine you are explaining on a whiteboard

General suggestions: Tell a story

Imagine you are explaining on a whiteboard

- Here is the problem

General suggestions: Tell a story

Imagine you are explaining on a whiteboard

- Here is the problem
- It is an interesting problem

General suggestions: Tell a story

Imagine you are explaining on a whiteboard

- Here is the problem
- It is an interesting problem
- It is an unsolved problem

General suggestions: Tell a story

Imagine you are explaining on a whiteboard

- Here is the problem
- It is an interesting problem
- It is an unsolved problem
- *Here is my idea*

General suggestions: Tell a story

Imagine you are explaining on a whiteboard

- Here is the problem
- It is an interesting problem
- It is an unsolved problem
- *Here is my idea*
- My idea works (details, data)

General suggestions: Tell a story

Imagine you are explaining on a whiteboard

- Here is the problem
- It is an interesting problem
- It is an unsolved problem
- *Here is my idea*
- My idea works (details, data)
- Here is how my idea compares to other people's approaches

General suggestions: Tell a story

Imagine you are explaining on a whiteboard

- Here is the problem
- It is an interesting problem
- It is an unsolved problem
- *Here is my idea*
- My idea works (details, data)
- Here is how my idea compares to other people's approaches

Such flow also shapes the paper structure

1 INTRODUCTION

The scalable nature of Transformer models (Kaplan et al., 2020) has gained remarkable successes across a spectrum of applications, ranging from language (Achiam et al., 2023; Touvron et al., 2023a,b) and vision Kirillov et al. (2023); Peebles & Xie (2023) to cross-modality domains (Liu et al., 2024; Li et al., 2022b; 2023b). To further enhance performance while maintaining high efficiency, Sparse Mixture of Experts (SMoE) has emerged as a promising technique that significantly reduces computation costs during both training and inference stages (Fedus et al., 2022; Lepikhin et al., 2020; Zhang et al., 2022), and has been shown to achieve comparable or superior performance compared to traditional dense models (Li et al., 2022a; Jiang et al., 2024; Dai et al., 2024).

Despite its success, SMoE has an unavoidable drawback: *the performance of SMoE heavily relies on the choice of hyper-parameters*, such as the number of activated experts per token, referred as top- k , and the number of experts (Clark et al., 2022; Fan et al., 2024; Yang et al., 2021), denoted as K . As illustrated in Figure 1(a), the performance discrepancy of MoE models under various configurations can be approximately 1%-3%. Notably, *identifying the optimal hyper-parameter without a sufficient number of ablation studies is challenging*. As the size of the models continues to grow, this limitation could result in a significant waste of computational resources, and in turn, could hinder the efficiency of training MoE-based models in practice.

To tackle the above problems, the objective of this paper is to explore a novel training technique for MoE models, with the aim of addressing the following core question:

Is it possible to develop a MoE training strategy that can automatically determine the number of experts and the number of activated experts per token during the training process?

Hence, we introduce the Dynamic Mixture of Experts (DYNMOE) method, which addresses the aforementioned question through the introduction of two innovative components: (1) a top-any gating method that enables each token to autonomously determine the number of experts to activate, thereby allowing different tokens to activate varying numbers of experts; (2) an adaptive training process that dynamically adjusts the number of experts, increasing it when the current quantity is inadequate and

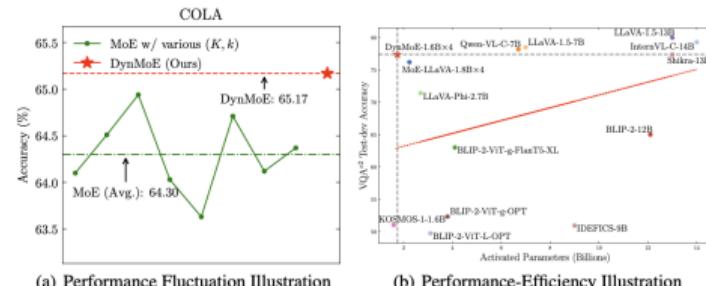


Figure 1: **Illustration of performance and efficiency of DYNMOE.** In Figure 1(a), we carried out experiments on GLUE benchmark (Wang et al., 2018), employing BERT-large (Devlin et al., 2019) as backbone. In Figure 1(b), we follow the MoE-LLaVA (Lin et al., 2024) settings, the x -axis represents the number of activated parameters, while the y -axis shows the performance on the Visual Question Answering (VQA) task.

removing redundant experts as necessary. Additionally, we introduce a new auxiliary loss function specifically designed to encourage sparsity when employing the top-any gating approach. This loss encourages different experts to be diverse, rather than mandating that all experts be activated with the same frequency. We summarize the contributions of this paper as follows:

- Introducing DYNMOE, a novel method frees the burden of pivotal hyper-parameter selection for MoE training, which is capable of autonomously determining the number of experts and the number of experts to be activated per token. We provide Tutel and DeepSpeed-MoE implementations for ease of practical usage.
- Conducting extensive empirical experiments across Vision, Language, and Vision-Language tasks. The results illustrate that DYNMOE achieves comparable or superior performance and efficiency compared to the well-tuned MoE settings (Figure 1(b)).

Figure: An example of a story

General suggestions: Tell a story

- Title (1,000 readers)
- Abstract (4 – 5 sentences, 100 readers)
- Introduction (1 page, 100 readers)
- The problem (1 page, 10 readers)
- My idea (2 pages, 10 readers)
- The details (5 pages, 3 readers)
- Related work (1 – 2 pages, 10 readers)
- Conclusion and future work (0.5 pages)

General suggestions: Tell a story

- Title (1,000 readers)
- Abstract (4 – 5 sentences, 100 readers)
- Introduction (1 page, 100 readers)
- The problem (1 page, 10 readers)
- My idea (2 pages, 10 readers)
- The details (5 pages, 3 readers)
- Related work (1 – 2 pages, 10 readers)
- Conclusion and future work (0.5 pages)

Presenting the idea as on a whiteboard:

General suggestions: Tell a story

- Title (1,000 readers)
- Abstract (4 – 5 sentences, 100 readers)
- Introduction (1 page, 100 readers)
- The problem (1 page, 10 readers)
- My idea (2 pages, 10 readers)
- The details (5 pages, 3 readers)
- Related work (1 – 2 pages, 10 readers)
- Conclusion and future work (0.5 pages)

Presenting the idea as on a whiteboard:

- Conveying the intuition is primary!

General suggestions: Tell a story

- Title (1,000 readers)
- Abstract (4 – 5 sentences, 100 readers)
- Introduction (1 page, 100 readers)
- The problem (1 page, 10 readers)
- My idea (2 pages, 10 readers)
- The details (5 pages, 3 readers)
- Related work (1 – 2 pages, 10 readers)
- Conclusion and future work (0.5 pages)

Presenting the idea as on a whiteboard:

- Conveying the intuition is primary!
- Once your reader has the intuition, he/she can follow the details (but not vice versa)

General suggestions: Tell a story

- Title (1,000 readers)
- Abstract (4 – 5 sentences, 100 readers)
- Introduction (1 page, 100 readers)
- The problem (1 page, 10 readers)
- My idea (2 pages, 10 readers)
- The details (5 pages, 3 readers)
- Related work (1 – 2 pages, 10 readers)
- Conclusion and future work (0.5 pages)

Presenting the idea as on a whiteboard:

- Conveying the intuition is primary!
- Once your reader has the intuition, he/she can follow the details (but not vice versa)
- Even if he/she skips the details, he/she still takes away something valuable.

Table of Contents

1 How to Write a Great Research Paper?

- A General Guideline
- How to Write the Introduction?
- How to Write Papers That Are Easy to Read?
- Tips to Create a Good Table

2 How to Write a Rebuttal for a Conference?

3 Summary

Template: 3 Figures + 5 Questions

3 Figures:

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure
- WHY figure

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure
- WHY figure
- HOW figure

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure
- WHY figure
- HOW figure

5 Questions:

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure
- WHY figure
- HOW figure

5 Questions:

- What's the problem?

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure
- WHY figure
- HOW figure

5 Questions:

- What's the problem?
- What have others done?

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure
- WHY figure
- HOW figure

5 Questions:

- What's the problem?
- What have others done?
- What's the gap?

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure
- WHY figure
- HOW figure

5 Questions:

- What's the problem?
- What have others done?
- What's the gap?
- What have you done?

Template: 3 Figures + 5 Questions

3 Figures:

- WHAT figure
- WHY figure
- HOW figure

5 Questions:

- What's the problem?
- What have others done?
- What's the gap?
- What have you done?
- What do you contribute?

WHAT figure

Start with the paper with a WHAT figure (known as the “teaser”).

WHAT figure

Start with the paper with a WHAT figure (known as the “teaser”).

This figure shows only two things:

- Input
- Output

WHAT figure

Start with the paper with a WHAT figure (known as the “teaser”).

This figure shows only two things:

- Input
- Output

This helps the readers understand what your work is about.

WHAT Example 1

Mask R-CNN showcases its key results upfront without waiting until the result section.

- Input: Single images
- Output: Instance segmentation masks

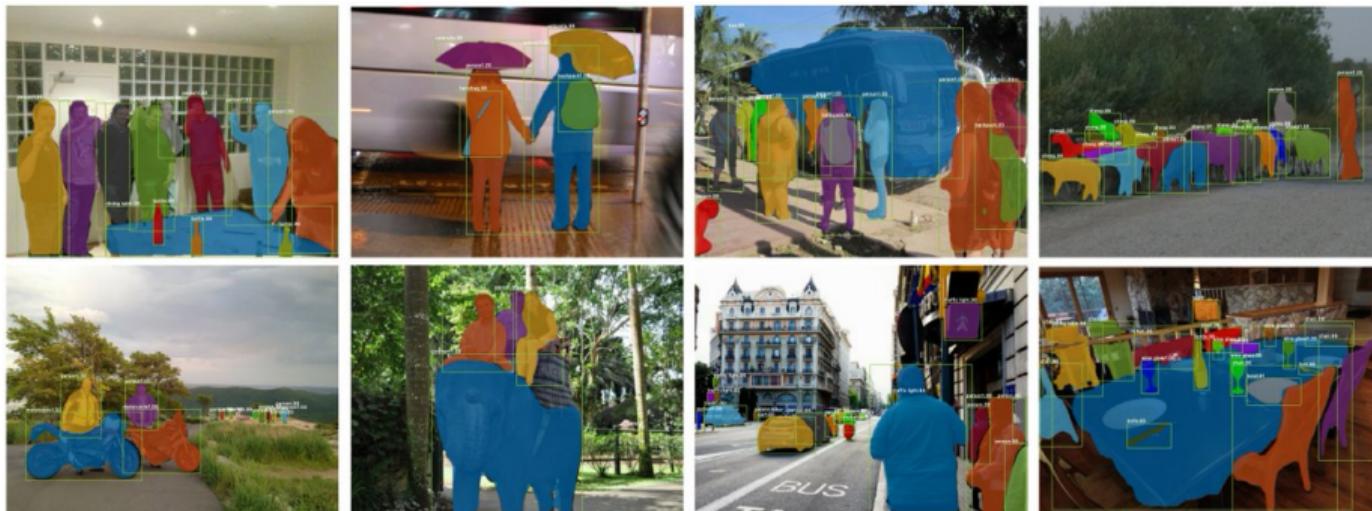


Figure 2. **Mask R-CNN** results on the COCO test set. These results are based on ResNet-101 [19], achieving a *mask AP* of 35.7 and running at 5 fps. Masks are shown in color, and bounding box, category, and confidences are also shown.

WHAT Example 2

CycleGAN shows its ability to solve various unpaired image-to-image translation problems.

- Input: Images from domain A
- Output: Images from domain B

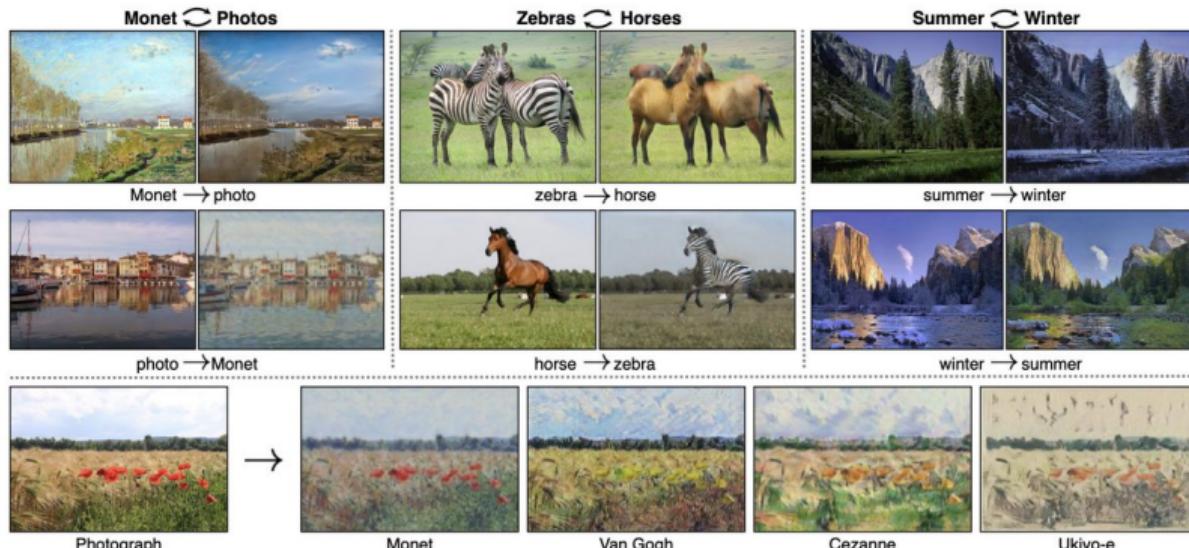
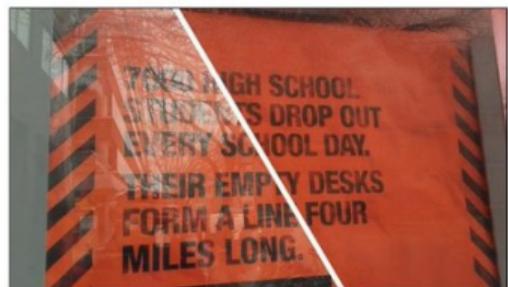


Figure 1: Given any two unordered image collections X and Y , our algorithm learns to automatically “translate” an image from one into the other and vice versa: (*left*) Monet paintings and landscape photos from Flickr; (*center*) zebras and horses from ImageNet; (*right*) summer and winter Yosemite photos from Flickr. Example application (*bottom*): using a collection of paintings of famous artists, our method learns to render natural photographs into the respective styles.

WHAT Example 3

Obstruction removal paper

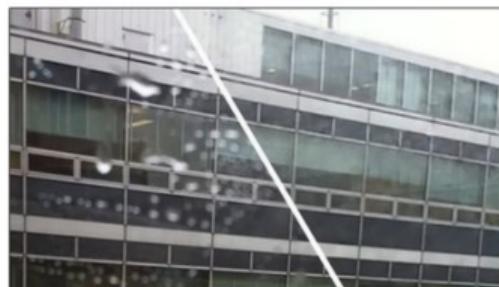
- Input: Obstructed images (reflection, fence, raindrop)
- Output: Clean images



(a) Reflection removal



(b) Fence removal



(c) Raindrop removal

Figure 1: **Seeing through obstructions.** We present a learning-based method for recovering clean images from a given short sequence of images taken by a moving camera through obstructing elements such as (a) windows, (b) fence, or (c) raindrop.

Since the images are aligned, we can use split frames to 1) save space and 2) highlight the contrast.

WHY Figure

This figure provides the “motivation” for your work.

The best WHY figure illustrates the existing work’s core issue/problem with a concrete example:

WHY Figure

This figure provides the “motivation” for your work.

The best WHY figure illustrates the existing work’s core issue/problem with a concrete example:

- SIMPLIFYING with a toy example and

WHY Figure

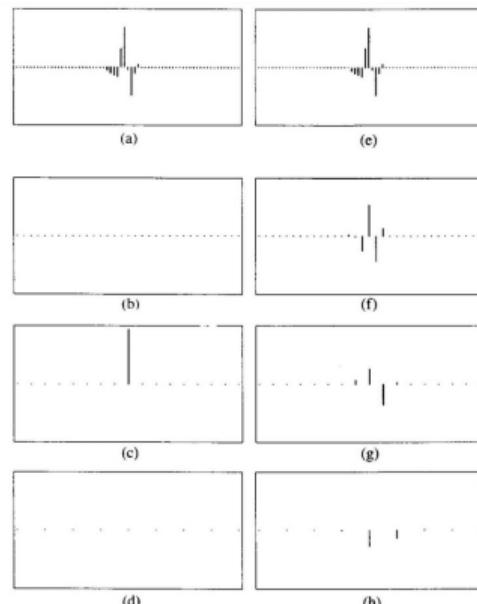
This figure provides the “motivation” for your work.

The best WHY figure illustrates the existing work’s core issue/problem with a concrete example:

- SIMPLIFYING with a toy example and
- CONTEXTUALIZING with prior work

WHY Example 1

The NEED for translation invariance with a concrete example:



- (a) Input signal
- (b-d) Coefficients of wavelet representations
- (e) Shifted the input signal by ONE sample
- (f-h) LOOK! Completely DIFFERENT coefficients

Fig. 1. Effect of translation on the wavelet representation of a signal. (a) Input signal, which is equal to one of the wavelet basis functions. (b)-(d) Decomposition of the signal into three wavelet subbands. Plotted are the coefficients of each subband. Dots correspond to zero-value coefficients. (e) Same input signal, translated one sample to the right. (f)-(h) Decomposition of the shifted signal into three wavelet subbands. Note the drastic change in the coefficients of the transform, both within and between subbands.

WHY Example 2

The NEED for a more informative and intuitive description using relative attributes with concrete examples



(a) Smiling



(b) ?



(c) Not smiling



(d) Natural



(e) ?



(f) Manmade

Figure 1. Binary attributes are an artificially restrictive way to describe images. While it is clear that (a) is smiling, and (c) is not, the more informative and intuitive description for (b) is via *relative* attributes: he is smiling more than (a) but less than (c). Similarly, scene (e) is less natural than (d), but more so than (f). Our main idea is to model relative attributes via learned ranking functions, and then demonstrate their impact on novel forms of zero-shot learning and generating image descriptions.

WHY Example 3

The Feature Pyramid Networks work shows multiple alternative design options (a-c) and their drawbacks. This helps motivate the NEED for their design of a fast & accurate model.

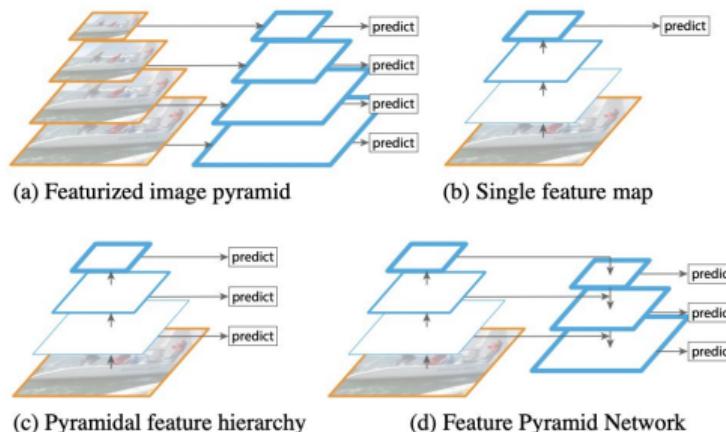


Figure 1. (a) Using an image pyramid to build a feature pyramid. Features are computed on each of the image scales independently, which is slow. (b) Recent detection systems have opted to use only single scale features for faster detection. (c) An alternative is to reuse the pyramidal feature hierarchy computed by a ConvNet as if it were a featurized image pyramid. (d) Our proposed Feature Pyramid Network (FPN) is fast like (b) and (c), but more accurate. In this figure, feature maps are indicated by blue outlines and thicker outlines denote semantically stronger features.

HOW Figure

This figure describes how your method works.

HOW Figure

This figure describes how your method works.

Some tips:

HOW Figure

This figure describes how your method works.

Some tips:

- Link all sections (as an overview and provide a clear roadmap)

HOW Figure

This figure describes how your method works.

Some tips:

- Link all sections (as an overview and provide a clear roadmap)
- Use consistent notations

HOW Figure

This figure describes how your method works.

Some tips:

- Link all sections (as an overview and provide a clear roadmap)
- Use consistent notations
- Self-contained caption

HOW Figure

This figure describes how your method works.

Some tips:

- Link all sections (as an overview and provide a clear roadmap)
- Use consistent notations
- Self-contained caption
- Visualize the variables

HOW Figure

This figure describes how your method works.

Some tips:

- Link all sections (as an overview and provide a clear roadmap)
- Use consistent notations
- Self-contained caption
- Visualize the variables
- Cascade of small units: “Input -> some processing -> Output” (think about computational graph).

HOW Example 1

The HyperReel paper visualizes the four main algorithmic steps.

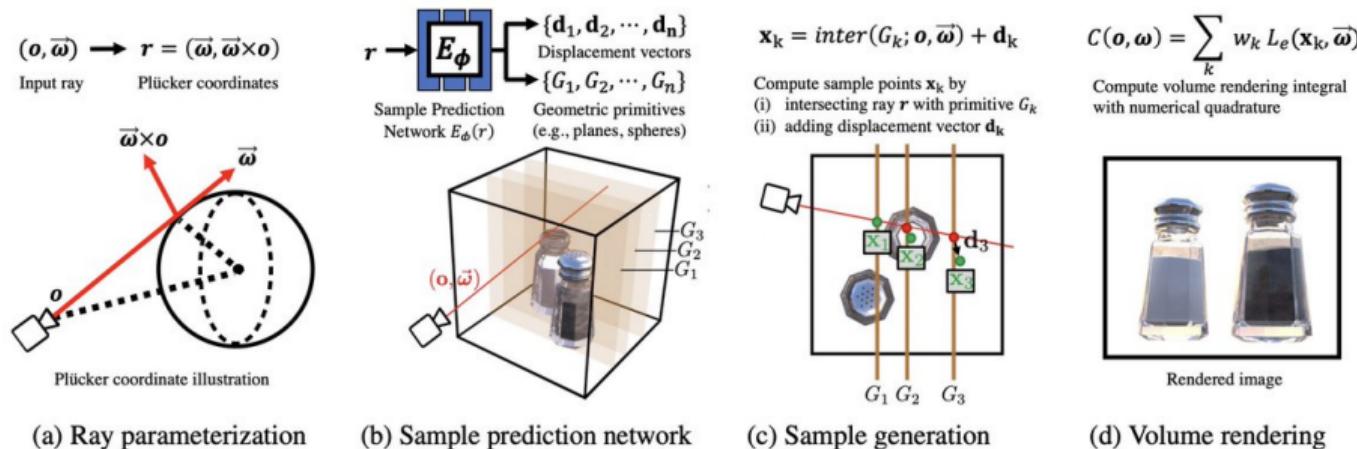


Figure 2. Overview of HyperReel for static scenes. Given a set of images and camera poses, the training objective is to reconstruct the measured color associated with every ray. (a) Given an input ray originating at the camera origin \mathbf{o} and traveling in direction $\vec{\omega}$, we first reparameterize the ray using Plücker coordinates. (b) A network E_ϕ takes this ray as input and outputs the parameters for a set of geometric primitives $\{G_k\}$ (such as axis-aligned planes and spheres) and displacement vectors $\{\mathbf{d}_k\}$. (c) To generate sample points $\{\mathbf{x}_k\}$ for volume rendering, we compute the intersections between the ray and the geometric primitives, and add the displacement vectors to the results. Predicting geometric primitives has the advantage of making the sample signal smooth and easy to interpolate (see [Section 3.1](#)). The displacement vectors grant additional flexibility to the sample points, enabling better capture of complex view-dependent appearance. (d) Finally, we perform volume rendering via [Equation 2](#) to produce a pixel color and supervise training based on the corresponding observation.

Note the math notations, name, and detailed, self-contained figure caption.

HOW Example 2

It shows the processing steps in each iteration:

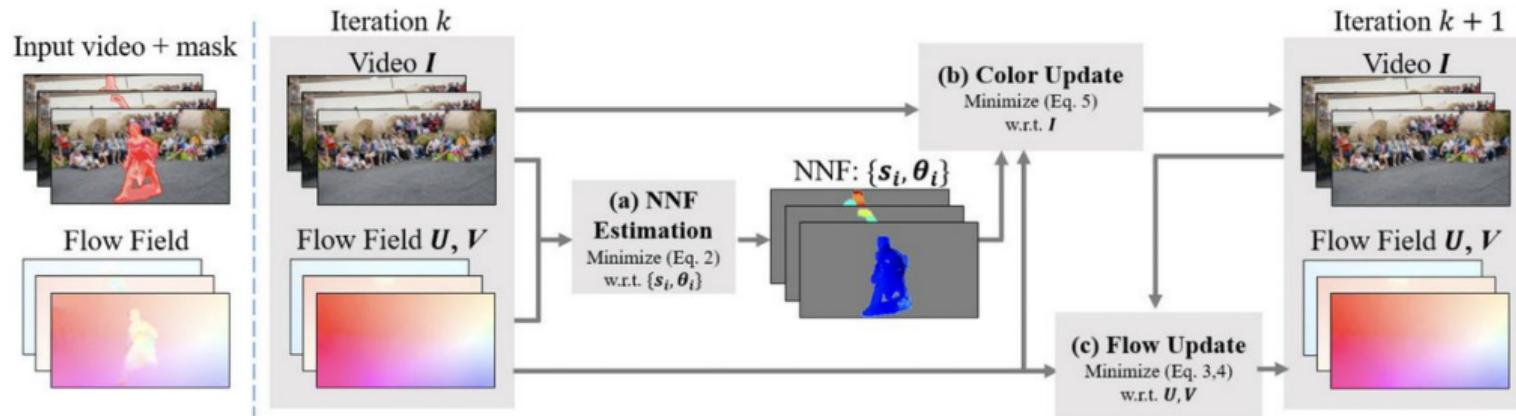


Figure 2: Algorithm pipeline. Given the input video and user-selected mask, we start with computing the flow fields. After initialization at the coarsest scale (Section 4.4), in each scale our algorithm iterates through three steps (Section 4.3): (a) nearest neighbor field estimation: minimize the color spatial cost by finding dense approximate nearest neighbor source patches for all target patches; (b) color update: minimize the color spatial and color temporal cost so that the synthesized colors are both spatially and temporally coherent; and (c) flow update: refine the forward and backward flow fields. We then upsample the solution of the nearest neighbor field and flow fields to the next finer level. The color at the finer level is estimated by spatial patch voting (using the upsampled nearest neighbor field).

HOW Example 3

The Robust Dynamic Radiance Fields paper shows how all the math notations and variables connect with each other using this HOW figure. Note the descriptive figure caption.

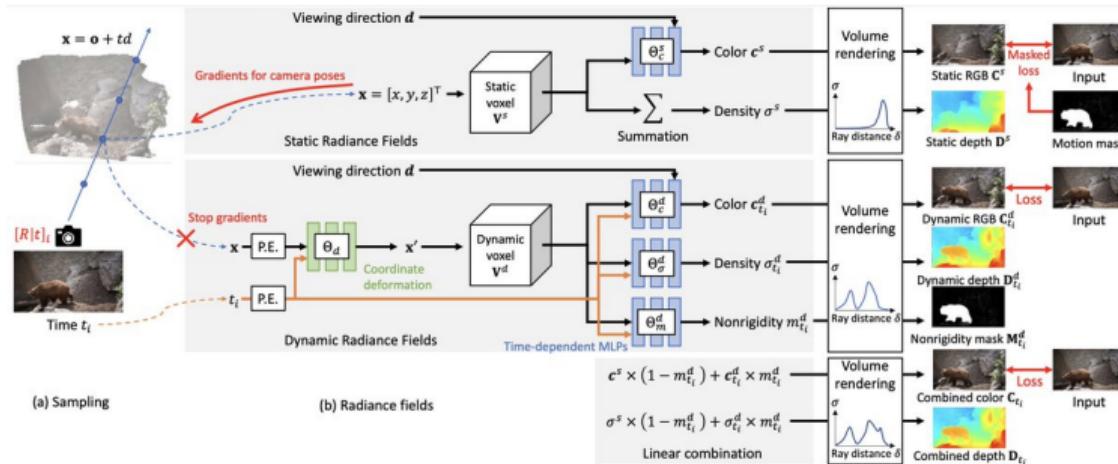


Figure 2. Overall framework. We model the dynamic scene with static and dynamic radiance fields. The static radiance fields take both the sampled coordinates (x, y, z) and the viewing direction d as input and predict the density σ^s and color c^s . Note that the density of the static part is invariant to time and viewing direction, therefore, we use summation of the queried features as the density (instead of using an MLP). We only compute the losses over the static regions. The computed gradients backpropagate not only to the static voxel field and MLPs but also to the camera parameters. The dynamic radiance fields take the sampled coordinates and the time t to obtain the *deformed coordinates* (x', y', z') in the canonical space. Then we query the features using these deformed coordinates from the dynamic voxel fields and pass the features along with the time index to a time-dependent shallow MLPs to get the color c^d , density σ^d , and nonrigidity m^d of the dynamic part. Finally, after the volume rendering, we can obtain the RGB images $\mathbf{C}^{\{s,d\}}$ and the depth maps $\mathbf{D}^{\{s,d\}}$ from the static and dynamic parts along with a nonrigidity mask \mathbf{M}^d . Finally, we calculate the per-frame reconstruction loss. Note that here we only include per-frame losses.

With the WHAT-WHY-HOW figures, we are now ready to answer the following five questions!

- What's the problem?
- What have others done?
- What's the gap?
- What have you done?
- What do you contribute?

Q1: What's the problem?

- State clearly what problem you are addressing.

Q1: What's the problem?

- State clearly what problem you are addressing.
- Tell the readers explicitly why they should care about the problem (e.g., applications).

Q1: What's the problem?

- State clearly what problem you are addressing.
- Tell the readers explicitly why they should care about the problem (e.g., applications).

Use your WHAT figure for visual references.

Q2: What have others done?

- Describe what other solutions (SOTAs) are to your problem.

Q2: What have others done?

- Describe what other solutions (SOTAs) are to your problem.
- Usually follows a historical trajectory, e.g., classical geometric methods did X, learning-based methods did Y, and recent hybrid methods did Z.

Q3: What's the gap?

- Explain why all these existing solutions are NOT satisfactory (in some aspects).

Q3: What's the gap?

- Explain why all these existing solutions are NOT satisfactory (in some aspects).
- This is important as your work often addresses a specific gap/flaw/drawback of existing work.

Q3: What's the gap?

- Explain why all these existing solutions are NOT satisfactory (in some aspects).
- This is important as your work often addresses a specific gap/flaw/drawback of existing work.

Use the example in your WHY figure to illustrate the *gap*.

Q4: What have you done?

- Add “In this paper, ...” at the beginning of this paragraph. It helps provide a clean separation of the past/current work.

Q4: What have you done?

- Add “In this paper, ...” at the beginning of this paragraph. It helps provide a clean separation of the past/current work.
- Talk about a) Task, b) High-level idea, c) Evaluation

Q4: What have you done?

- Add “In this paper, ...” at the beginning of this paragraph. It helps provide a clean separation of the past/current work.
- Talk about a) Task, b) High-level idea, c) Evaluation

Use your HOW figure to ground your discussions.

Q5: What do you contribute?

- Not everything you do is “novel” e.g., a large part of your work may build upon some existing methods. Thus, it is a good practice to explicitly state your contributions.

Q5: What do you contribute?

- Not everything you do is “novel” e.g., a large part of your work may build upon some existing methods. Thus, it is a good practice to explicitly state your contributions.
- Make a list so that lazy reviewers can use them in their reviews

In sum, the introduction section would look like this:

- What's the problem? (see WHAT figure)
- What have others done?
- What's the gap? (see WHY figure)
- What have you done? (see HOW figure)
- What do you contribute?

Table of Contents

1 How to Write a Great Research Paper?

- A General Guideline
- How to Write the Introduction?
- How to Write Papers That Are Easy to Read?
- Tips to Create a Good Table

2 How to Write a Rebuttal for a Conference?

3 Summary

Move figures/tables to the top

Add “[!t]” parameter to your figure/table so that LaTeX will try placing them on the top of the page.

Move figures/tables to the top

Add “[!t]” parameter to your figure/table so that LaTeX will try placing them on the top of the page.

Why?

Move figures/tables to the top

Add “[!t]” parameter to your figure/table so that LaTeX will try placing them on the top of the page.

Why?

- Figures/tables are much easier to understand than reading plain texts.
- Moving them to the top helps readers quickly understand your work.

Self-contained figure/table caption and short titles

- Whatever you want to say for the figure/table, say them in the caption.



DON'Ts



DOs

Please refer to the texts for detail.

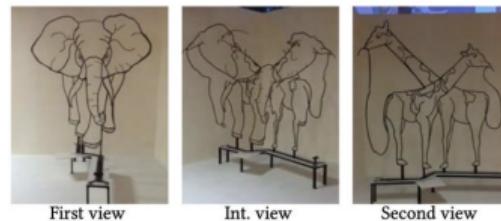


Fig. 2. Example of multi-view wire sculpture art. The anamorphose sculpture created by the French sculptor Matthieu Robert-Ortis is a classic example of multi-view wire art. When viewing from one specific angle, we perceive a drawing of an elephant. When viewing from another view point, the interpretation changes into two giraffes. The 2D projection in the intermediate view does not produce an interpretable image.

Self-contained figure/table caption and short titles

- Whatever you want to say for the figure/table, say them in the caption.
It's annoying to find and match the corresponding texts describing the figure/table in your paper.



DON'Ts



DOs

Please refer to the texts for detail.

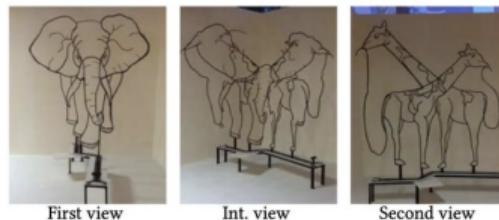


Fig. 2. Example of multi-view wire sculpture art. The anamorphic sculpture created by the French sculptor Matthieu Robert-Ortis is a classic example of multi-view wire art. When viewing from one specific angle, we perceive a drawing of an elephant. When viewing from another view point, the interpretation changes into two giraffes. The 2D projection in the intermediate view does not produce an interpretable image.

Self-contained figure/table caption and short titles

- Whatever you want to say for the figure/table, say them in the caption.
It's annoying to find and match the corresponding texts describing the figure/table in your paper.
- Add titles (e.g., using *paragraph*) to your figure/table captions and the main texts.



DON'Ts



DOs

Please refer to the texts for detail.

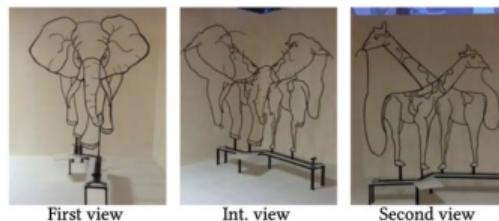


Fig. 2. Example of multi-view wire sculpture art. The anamorphic sculpture created by the French sculptor Matthieu Robert-Ortis is a classic example of multi-view wire art. When viewing from one specific angle, we perceive a drawing of an elephant. When viewing from another view point, the interpretation changes into two giraffes. The 2D projection in the intermediate view does not produce an interpretable image.

Self-contained figure/table caption and short titles

- Whatever you want to say for the figure/table, say them in the caption.
It's annoying to find and match the corresponding texts describing the figure/table in your paper.
- Add titles (e.g., using *paragraph*) to your figure/table captions and the main texts.
 - They make your paper more structured and organized



DON'Ts

Please refer to the texts for detail.



DOs



Fig. 2. Example of multi-view wire sculpture art. The anamorphic sculpture created by the French sculptor Matthieu Robert-Ortis is a classic example of multi-view wire art. When viewing from one specific angle, we perceive a drawing of an elephant. When viewing from another view point, the interpretation changes into two giraffes. The 2D projection in the intermediate view does not produce an interpretable image.

Self-contained figure/table caption and short titles

- Whatever you want to say for the figure/table, say them in the caption.
It's annoying to find and match the corresponding texts describing the figure/table in your paper.
- Add titles (e.g., using *paragraph*) to your figure/table captions and the main texts.
 - They make your paper more structured and organized
 - They help your readers navigate the paper with ease.



DON'Ts

Please refer to the texts for detail.



DOs



Fig. 2. Example of multi-view wire sculpture art. The anamorphic sculpture created by the French sculptor Matthieu Robert-Ortis is a classic example of *multi-view wire art*. When viewing from one specific angle, we perceive a drawing of an elephant. When viewing from another view point, the interpretation changes into two giraffes. The 2D projection in the intermediate view does not produce an interpretable image.

Avoid empty spaces

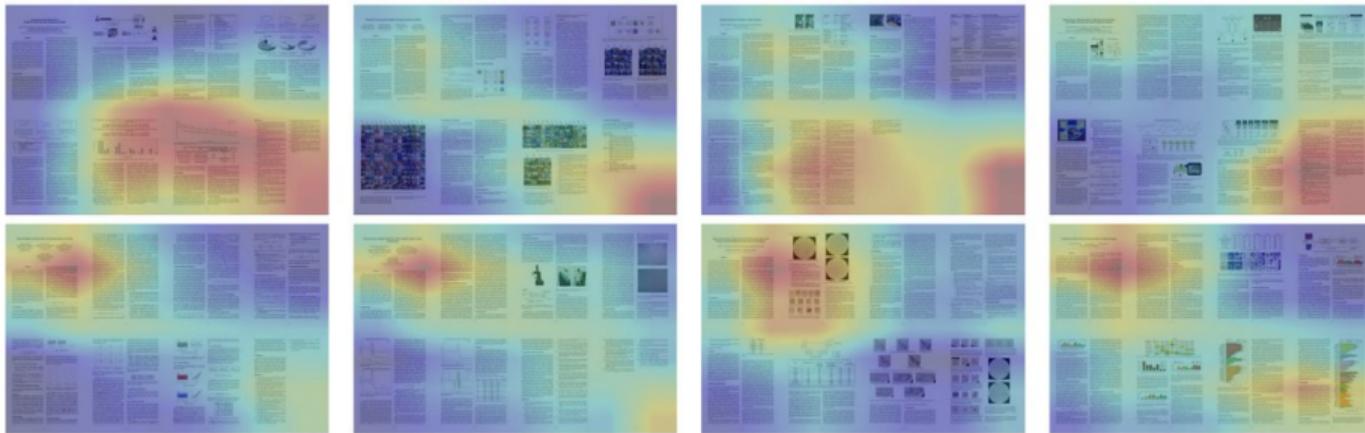


Figure 5. **Class-specific discriminative regions for *bad* papers.** (Top) Failing to fill the paper into a full eight-page paper is a discriminative visual cue for bad paper. (Bottom) The generated heatmaps focus on the top-right corner of the first page. This suggests that the *absence* of illustrative figures in the first two pages may cause the paper more difficult to understand.

Fill the paper into full page limit. It gives your readers a sense of a POLISHED and not RUSHED paper.

Notations



DON'Ts

$$L = \lambda_1 L_1 + \lambda_2 L_2 \\ \vdots$$

$$\lambda_1 = 0.1, \lambda_2 = 2.5$$



DOs

$$L_{total} = \lambda_{rec} L_{rec} + \lambda_{smooth} L_{smooth} \\ \vdots$$

$$\lambda_{rec} = 0.1, \lambda_{smooth} = 2.5$$

Which

It is difficult to figure out what exactly “which” refers to.



DON'Ts

We present a method that addresses A, B, C, which is challenging due to X.

???



DOs

We present a method that addresses A, B, C. The problem A is challenging due to X.

Respectively

It's hard to parse *which corresponds to which in the sentence that ends with “respectively”*



DON'Ts

We show results on three tasks. We improve the performance on the task A, task B, and task C by X%, from Y1 to Y2 mAP, and a Z point gain, respectively.



DOs

We show results on three tasks: On task A, we improve the performance by X%. On task B, we get a boost from Y1 to Y2 mAP. On task C, we achieve a Z point gain.

Names for notations

When using notations in the sentences, mention their “names” as well.



DON'Ts

The F_θ takes I_i, I_j as inputs and produce $W_{i \rightarrow j}$.



DOs

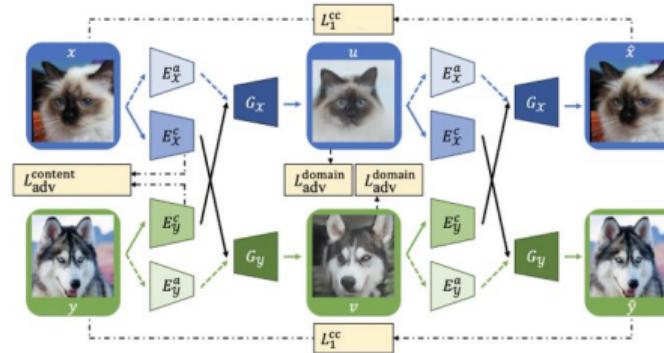
The flow estimation network F_θ takes a pair of frames I_i, I_j as inputs and produces a dense flow field $W_{i \rightarrow j}$.

Connect figures with equations, notations, and sections

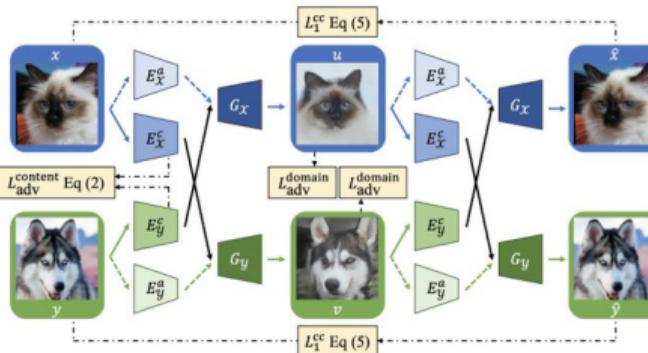
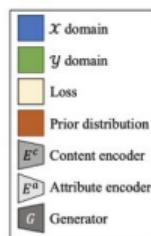
An overview figure provides a centralized hub that connects all the important things.



DON'Ts



DOs

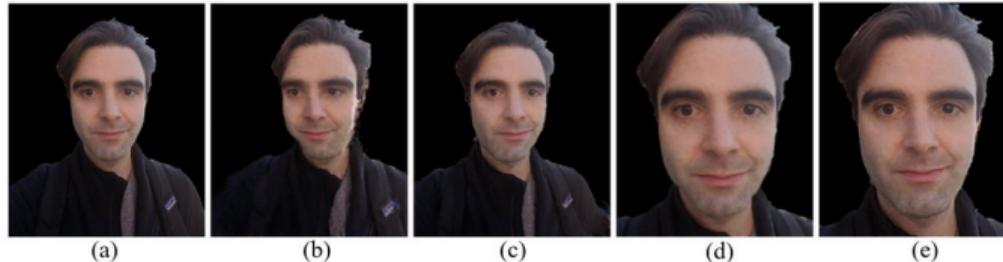


Group subfigures

Don't ask readers to figure out the grouping (b-c) and (d-e) in the caption.



DON'Ts



DOs



Table of Contents

1 How to Write a Great Research Paper?

- A General Guideline
- How to Write the Introduction?
- How to Write Papers That Are Easy to Read?
- Tips to Create a Good Table

2 How to Write a Rebuttal for a Conference?

3 Summary

Avoid vertical lines

Having vertical lines in a table almost always makes the table less readable.
Avoid them at all costs.

	PSNR	SSIM	LPIPS
Method A	23.55	0.872	0.592
Method B	24.51	0.853	0.391
Method C	25.13	0.834	0.865
Ours	25.78	0.895	0.478



	PSNR	SSIM	LPIPS
Method A	23.55	0.872	0.592
Method B	24.51	0.853	0.391
Method C	25.13	0.834	0.865
Ours	25.78	0.895	0.478



Align everything

- Align texts to the left
- Align numbers to the center
- Align numbers at a consistent decimal point

	PSNR ↑	SSIM ↑	LPIPS ↓
Method A	23.551	0.8723	0.59227
Method B	24.5	0.85	0.390
Method C	25.133	0.8344	0.86549
Ours	25.781	0.894	0.478



	PSNR ↑	SSIM ↑	LPIPS ↓
Method A	23.55	0.87	0.592
Method B	24.51	0.85	0.391
Method C	25.13	0.83	0.865
Ours	25.78	0.89	0.478



Encode rows with attributes

Factorize the variants/attributes of different methods → it becomes clear to compare one with another



DON'Ts

Method	mAP
[Snorlax et al. 2018]*	25.0
[Bulbasaur et al. 2019]*†	29.8
[Psyduck et al. 2020] †	32.1
Ours	35.5



DOs

Method	External data?	Finetuned?	mAP
[Snorlax et al. 2018]	✓	-	25.0
[Bulbasaur et al. 2019]	✓	✓	29.8
[Psyduck et al. 2020]	-	✓	32.1
Ours	-	-	35.5

One table, one message

Decompose your big table so that each table conveys exactly one thing.



This prevents people from having to compare results from distant rows.



DON'Ts

Method	Acc (%)
Variant A1	75
Variant A2	65
w/o B	77
w/o C	73
Full model	80



DOs

Method	Acc (%)	Method	Acc (%)	Method	Acc (%)
Full model	80	Full model	80	Full model	80
Variant A1	75	Without B	77	Without C	73
Variant A2	65				

Table organization

- Merge tables sharing the same structure.
- Label the metric (the larger/smaller the better) with up-arrow and down-arrow so that your readers don't need to look them up.



DON'Ts

Method	Abs Rel	Sq Rel	RMSE	log RMSE	$\delta < 1.25$	$\delta < 1.25^2$	$\delta < 1.25^3$	Method	ATE (m)	RPE Trans (m)	RPE Rot (deg)
DeepV2D [56]	0.526	3.629	6.493	0.683	0.487	0.671	0.761	DeepV2D [56]	0.9526	0.3819	0.1869
Ours - Single-scale pose (aligned MiDaS)	0.380	<u>2.617</u>	<u>5.773</u>	0.533	0.562	0.736	0.832	Ours - Single-scale pose (aligned MiDaS)	0.1883	0.0806	0.0262
Ours - Single-scale pose + depth fine-tuning	0.472	3.444	6.340	0.635	0.534	0.694	0.790	Ours - Single-scale pose + depth fine-tuning	<u>0.1686</u>	0.0724	0.0139
Ours - Single-scale pose + depth filter	0.375	2.546	5.763	0.530	0.569	0.738	0.835	Ours - Single-scale pose + depth filter	0.1882	0.0806	0.0262
Ours - Flexible pose	0.379	2.702	5.795	0.533	0.565	0.744	<u>0.836</u>	Ours - Flexible pose	0.1843	<u>0.0723</u>	0.0095
Ours - Flexible pose + depth fine-tuning	0.439	3.100	6.213	0.614	0.524	0.698	0.796	Ours - Flexible pose + depth fine-tuning	0.1656	0.0651	0.0070
Ours - Flexible pose + depth filter	<u>0.377</u>	2.657	5.786	<u>0.531</u>	<u>0.568</u>	<u>0.745</u>	0.837	Ours - Flexible pose + depth filter	0.1843	0.0723	0.0095



DOs

Method	Depth - Error metric ↓				Depth - Accuracy metric ↑			Pose - Error metric ↓		
	Abs Rel	Sq Rel	RMSE	log RMSE	$\delta < 1.25$	$\delta < 1.25^2$	$\delta < 1.25^3$	ATE (m)↓	RPE Trans (m)↓	RPE Rot (deg)↓
DeepV2D [56]	0.526	3.629	6.493	0.683	0.487	0.671	0.761	0.9526	0.3819	0.1869
Ours - Single-scale pose (aligned MiDaS)	0.380	<u>2.617</u>	<u>5.773</u>	0.533	0.562	0.736	0.832	0.1883	0.0806	0.0262
Ours - Single-scale pose + depth fine-tuning	0.472	3.444	6.340	0.635	0.534	0.694	0.790	<u>0.1686</u>	0.0724	0.0139
Ours - Single-scale pose + depth filter	0.375	2.546	5.763	0.530	0.569	0.738	0.835	0.1882	0.0806	0.0262
Ours - Flexible pose	0.379	2.702	5.795	0.533	0.565	0.744	<u>0.836</u>	0.1843	<u>0.0723</u>	0.0095
Ours - Flexible pose + depth fine-tuning	0.439	3.100	6.213	0.614	0.524	0.698	0.796	0.1656	0.0651	0.0070
Ours - Flexible pose + depth filter	<u>0.377</u>	2.657	5.786	<u>0.531</u>	<u>0.568</u>	0.745	0.837	0.1843	0.0723	0.0095

Table of Contents

- 1 How to Write a Great Research Paper?
- 2 How to Write a Rebuttal for a Conference?
- 3 Summary

What is a rebuttal?

A rebuttal is a way for the PC chairs to avoid committing clear unfairness to a paper.

What is a rebuttal?

A rebuttal is a way for the PC chairs to avoid committing clear unfairness to a paper.

Once the authors receive negative reviews of their submission, they can write a response rebuttal to the reviewers' comments.

Key facts before writing your rebuttal

Remember that

Key facts before writing your rebuttal

Remember that

- the AC has not read your paper

Key facts before writing your rebuttal

Remember that

- the AC has not read your paper
- the reviewers have forgotten most everything they read in your paper

Key facts before writing your rebuttal

Remember that

- the AC has not read your paper
- the reviewers have forgotten most everything they read in your paper

try to make your response self-contained

Key facts before writing your rebuttal

Remember that

- the AC has not read your paper
- the reviewers have forgotten most everything they read in your paper

try to make your response self-contained

→ the reader can get back into the space quickly

Key facts before writing your rebuttal

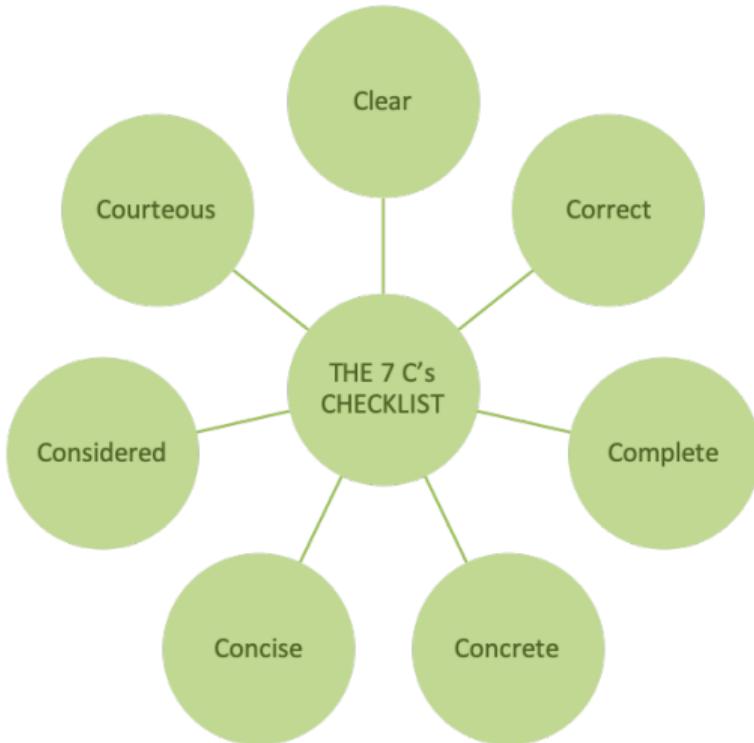
Remember that

- the AC has not read your paper
- the reviewers have forgotten most everything they read in your paper

try to make your response self-contained

- the reader can get back into the space quickly
- without having to reread the paper or the original reviews

Again!!! The 7 C's of communication



Please revisit our previous lecture when necessary.

General principles of the rebuttal

- Be polite

General principles of the rebuttal

- **Be polite**
 - Lashing out at a negative reviewer is not going to change their opinion.

General principles of the rebuttal

- **Be polite**
 - Lashing out at a negative reviewer is not going to change their opinion.
- **Be conciliatory**

General principles of the rebuttal

- **Be polite**
 - Lashing out at a negative reviewer is not going to change their opinion.
- **Be conciliatory**
 - If a reviewer is wrong, don't say they're wrong. Say "there seems to be a misunderstanding."

General principles of the rebuttal

- **Be polite**
 - Lashing out at a negative reviewer is not going to change their opinion.
- **Be conciliatory**
 - If a reviewer is wrong, don't say they're wrong. Say "there seems to be a misunderstanding."
 - If the misunderstanding arose from poor presentation, admit it and offer to fix it.

General principles of the rebuttal

- **Be polite**
 - Lashing out at a negative reviewer is not going to change their opinion.
- **Be conciliatory**
 - If a reviewer is wrong, don't say they're wrong. Say "there seems to be a misunderstanding."
 - If the misunderstanding arose from poor presentation, admit it and offer to fix it.
- **Be thorough**

General principles of the rebuttal

- **Be polite**

- Lashing out at a negative reviewer is not going to change their opinion.

- **Be conciliatory**

- If a reviewer is wrong, don't say they're wrong. Say "there seems to be a misunderstanding."
 - If the misunderstanding arose from poor presentation, admit it and offer to fix it.

- **Be thorough**

- Don't dodge any points or refuse to answer any questions.

General principles of the rebuttal

- **Be polite**

- Lashing out at a negative reviewer is not going to change their opinion.

- **Be conciliatory**

- If a reviewer is wrong, don't say they're wrong. Say "there seems to be a misunderstanding."
 - If the misunderstanding arose from poor presentation, admit it and offer to fix it.

- **Be thorough**

- Don't dodge any points or refuse to answer any questions.
 - If the reviewers found a flaw, admit the flaw and offer a fix (if you can find one).

Structure of the rebuttal

- General response to all reviewers
- Responses to individual reviewers
- Confidential notes to ACs

Structure: General response to all reviewers

- Start by thanking the reviewers for their time, thoughtful comments, etc.

Structure: General response to all reviewers

- Start by thanking the reviewers for their time, thoughtful comments, etc.
- Remember that this is what's most likely to be read by the ACs.

Structure: General response to all reviewers

- Start by thanking the reviewers for their time, thoughtful comments, etc.
- Remember that this is what's most likely to be read by the ACs.
- Reflect back the strongest favorable points so everyone sees them.

Structure: General response to all reviewers

- Start by thanking the reviewers for their time, thoughtful comments, etc.
- Remember that this is what's most likely to be read by the ACs.
- Reflect back the strongest favorable points so everyone sees them.
- If you receive extremely negative reviews, do not respond immediately, sleep on it.

Structure: General response to all reviewers

- Start by thanking the reviewers for their time, thoughtful comments, etc.
- Remember that this is what's most likely to be read by the ACs.
- Reflect back the strongest favorable points so everyone sees them.
- If you receive extremely negative reviews, do not respond immediately, sleep on it.
- If there's a major misunderstanding, you can mention it here (and point to the relevant reviewer-specific section).

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."
 - "The reviewer raises the incredibly important issue of X, and we see our paper as taking a first step to establish Y so that we can make progress on X."

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."
 - "The reviewer raises the incredibly important issue of X, and we see our paper as taking a first step to establish Y so that we can make progress on X."
- When a reviewer fails to appreciate the value of the kind of paper you've written, try to present the case in two ways:

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."
 - "The reviewer raises the incredibly important issue of X, and we see our paper as taking a first step to establish Y so that we can make progress on X."
- When a reviewer fails to appreciate the value of the kind of paper you've written, try to present the case in two ways:
 - ① from first principles (even though it may feel like you're stating the obvious), but succinctly

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."
 - "The reviewer raises the incredibly important issue of X, and we see our paper as taking a first step to establish Y so that we can make progress on X."
- When a reviewer fails to appreciate the value of the kind of paper you've written, try to present the case in two ways:
 - ① from first principles (even though it may feel like you're stating the obvious), but succinctly
 - ② by pointing to similar papers accepted in the research community

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."
 - "The reviewer raises the incredibly important issue of X, and we see our paper as taking a first step to establish Y so that we can make progress on X."
- When a reviewer fails to appreciate the value of the kind of paper you've written, try to present the case in two ways:
 - ① from first principles (even though it may feel like you're stating the obvious), but succinctly
 - ② by pointing to similar papers accepted in the research community
- It's reasonable to include a catch-all for minor stuff, something like

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."
 - "The reviewer raises the incredibly important issue of X, and we see our paper as taking a first step to establish Y so that we can make progress on X."
- When a reviewer fails to appreciate the value of the kind of paper you've written, try to present the case in two ways:
 - ① from first principles (even though it may feel like you're stating the obvious), but succinctly
 - ② by pointing to similar papers accepted in the research community
- It's reasonable to include a catch-all for minor stuff, something like
 - "We appreciate the reviewer's list of minor corrections and suggested references and will incorporate them in the next version."

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."
 - "The reviewer raises the incredibly important issue of X, and we see our paper as taking a first step to establish Y so that we can make progress on X."
- When a reviewer fails to appreciate the value of the kind of paper you've written, try to present the case in two ways:
 - ① from first principles (even though it may feel like you're stating the obvious), but succinctly
 - ② by pointing to similar papers accepted in the research community
- It's reasonable to include a catch-all for minor stuff, something like
 - "We appreciate the reviewer's list of minor corrections and suggested references and will incorporate them in the next version."
- If you want to make promises, make them assertively – "we will do X in the next version."

Structure: Responses to individual reviewers

- Reflect back the things they liked about the paper.
 - For reviewers who liked your paper, this helps motivate them to fight on your behalf.
- Don't try to address everything, and don't argue. Focus on the most important issues you can respond to.
 - E.g., if there's a major misunderstanding about the paper's claims or findings, this is where you correct the record.
- Whenever you push back, start with common ground. E.g.,
 - "We agree with the reviewer that X, but Y."
 - "The reviewer raises the incredibly important issue of X, and we see our paper as taking a first step to establish Y so that we can make progress on X."
- When a reviewer fails to appreciate the value of the kind of paper you've written, try to present the case in two ways:
 - ① from first principles (even though it may feel like you're stating the obvious), but succinctly
 - ② by pointing to similar papers accepted in the research community
- It's reasonable to include a catch-all for minor stuff, something like
 - "We appreciate the reviewer's list of minor corrections and suggested references and will incorporate them in the next version."
- If you want to make promises, make them assertively – "we will do X in the next version."
 - Don't leave them wondering by saying you "might" or "could consider" doing something.

Structure: Confidential notes to AC

- If a reviewer didn't do their job, or clearly did not read the paper, or seems to be unprepared to review the paper properly → you can mention that here.
- Also see some reasons why not to reject papers below. If any of your reviews falls squarely into these categories, also bring it up to the ACs.

Finally, it's becoming more common for people to share reviews on social media, especially when the reviews reject the work on spurious grounds. These lead us to advise that the following are often invalid bases for rejecting a paper:

- The paper's language or writing style. Please focus on the paper's substance. We understand that there may be times when the language or writing style is so poor that reviewers can not understand the paper's content and substance. In that case, it is fine to reject the paper, however you should only do so after making a concerted effort to understand the paper.
- The paper's work is on a language other than English. We care about NLP for any language.
- The paper's results are not better than SOTA. Please look at the paper's contributions and findings, as discussed above and in this blog post.
- The paper does not use a particular method (e.g., deep learning). No one particular method is a requirement for good work. Please justify why that method is needed. Think about what the paper's contributions are, and bear in mind that having a diversity of methods used is not a bad thing.
- The paper's method is too simple. Our goal is not to design the most complex method. Again, think what the paper's contributions and findings are. Often the papers with the simplest methods are the most cited. If a simple method outperforms more complex methods from prior work, then this is often an important finding.
- The paper's topic is narrow or outdated. Please be open minded. We do not want the whole community to chase a trendy topic. Look at the paper's contributions and consider what impact it may have on our community.
- The paper's topic is completely new, such that there's no prior art or all the prior art has been done in another field. We are interested in papers that tread new ground.
- The paper is a resource paper. In a field that relies on supervised machine learning as much as NLP, development of datasets is as important as modeling work. This blog post discusses what can and cannot be grounds for dismissing a resource paper.

Please refrain from using the reasons above as primary grounds for rejection when writing your reviews. We will ensure authors are aware of these guidelines and can reference them during the author rebuttal period. ACs will be checking reviews carefully based on the above criteria, and may ask that you revise your review, or that you provide objective reasons to justify your positions.

Steps for preparing the rebuttal

1 Indent

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period
→ Make sure the most important points are at the top.

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period
→ Make sure the most important points are at the top.

4 Cut and merge

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period
→ Make sure the most important points are at the top.

4 Cut and merge

Starting at the bottom (least important points) and working up.

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period
→ Make sure the most important points are at the top.

4 Cut and merge

Starting at the bottom (least important points) and working up.

5 Polish

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period
→ Make sure the most important points are at the top.

4 Cut and merge

Starting at the bottom (least important points) and working up.

5 Polish

- push the most accurate reviewer-written summary of your work to the top of your rebuttal

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period
→ Make sure the most important points are at the top.

4 Cut and merge

Starting at the bottom (least important points) and working up.

5 Polish

- push the most accurate reviewer-written summary of your work to the top of your rebuttal
- reviewers may have no time to read the full rebuttal → only glance at the first couple paragraphs

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period
→ Make sure the most important points are at the top.

4 Cut and merge

Starting at the bottom (least important points) and working up.

5 Polish

- push the most accurate reviewer-written summary of your work to the top of your rebuttal
- reviewers may have no time to read the full rebuttal → only glance at the first couple paragraphs
- as you edit your reply, try to place yourself in the reviewer's mind

Steps for preparing the rebuttal

1 Indent

Once you've received your reviews, put them all in a file.

2 Reply to all points

Reply to every point of all reviews, minor or large, as you would in a traditional academic email.

3 Sort

Reviewers may have to look at many rebuttals in a short period
→ Make sure the most important points are at the top.

4 Cut and merge

Starting at the bottom (least important points) and working up.

5 Polish

- push the most accurate reviewer-written summary of your work to the top of your rebuttal
- reviewers may have no time to read the full rebuttal → only glance at the first couple paragraphs
- as you edit your reply, try to place yourself in the reviewer's mind

6 Relax and revise

How to polish your rebuttal: Start positive

Start with

- *summarizing all the strengths noted by the reviewers,*
- *and adding quotes to provide evidence.*

How to polish your rebuttal: Start positive

Start with

- *summarizing all the strengths noted by the reviewers,*
- *and adding quotes to provide evidence.*

Remind the reviewers and AC of

“Why should this paper be accepted?”

How to polish your rebuttal: Neutralize negative comments

AC and other reviewers may only see all the NEGATIVE comments you responded to.

How to polish your rebuttal: Neutralize negative comments

AC and other reviewers may only see all the NEGATIVE comments you responded to.

Neutralize them.

How to polish your rebuttal: Neutralize negative comments

AC and other reviewers may only see all the NEGATIVE comments you responded to.

Neutralize them.

E.g.,

How to polish your rebuttal: Neutralize negative comments

AC and other reviewers may only see all the NEGATIVE comments you responded to.

Neutralize them.

E.g.,

- limited novelty → technical novelty

How to polish your rebuttal: Neutralize negative comments

AC and other reviewers may only see all the NEGATIVE comments you responded to.

Neutralize them.

E.g.,

- limited novelty → technical novelty
- insufficient experiments → experimental validation

How to polish your rebuttal: Neutralize negative comments

AC and other reviewers may only see all the NEGATIVE comments you responded to.

Neutralize them.

E.g.,

- limited novelty → technical novelty
- insufficient experiments → experimental validation
- missing baseline → baseline comparison

How to polish your rebuttal: Organize the document

Your rebuttal should be super easy to read and navigate.

How to polish your rebuttal: Organize the document

Your rebuttal should be super easy to read and navigate.

Some good practices:

How to polish your rebuttal: Organize the document

Your rebuttal should be super easy to read and navigate.

Some good practices:

- Consolidate common concerns

How to polish your rebuttal: Organize the document

Your rebuttal should be super easy to read and navigate.

Some good practices:

- Consolidate common concerns
- Address important questions upfront

How to polish your rebuttal: Organize the document

Your rebuttal should be super easy to read and navigate.

Some good practices:

- Consolidate common concerns
- Address important questions upfront
- Color-code reviewers

How to polish your rebuttal: Organize the document

Your rebuttal should be super easy to read and navigate.

Some good practices:

- Consolidate common concerns
- Address important questions upfront
- Color-code reviewers
- Move the figures/tables inline

Tips: Just do it

R2: I wonder if your method can work on X.

Tips: Just do it

R2: I wonder if your method can work on X.

Tips: Just do it

R2: I wonder if your method can work on X.

- ① Level 1: We will test it.
- ② Level 2: We believe that it will work because of Y.

Tips: Just do it

R2: I wonder if your method can work on X.

- ① Level 1: We will test it.
- ② Level 2: We believe that it will work because of Y.
- ③ Level 3: We tested it. It works. Here are the results. We will include them in the revised paper.

Tips: Establish credibility for details/results already included in the paper

R2: The baseline X is missing.

Tips: Establish credibility for details/results already included in the paper

R2: The baseline X is missing.

Example 1

As discussed on L512-538, we show the quantitative results in Table 3 and visual comparisons in Figure 4. We also include additional comparisons in the supp material.

Tips: Be open and transparent

You don't have to fight/defend everything.

Tips: Be open and transparent

You don't have to fight/defend everything.

- It's okay to acknowledge R2's comments on method limitations, typos, and suggestions to improve the method and presentation.

Tips: Be open and transparent

You don't have to fight/defend everything.

- It's okay to acknowledge R2's comments on method limitations, typos, and suggestions to improve the method and presentation.
- Do push back on mis-characterizations though.

Table of Contents

- 1 How to Write a Great Research Paper?
- 2 How to Write a Rebuttal for a Conference?
- 3 Summary

More resources

- Duke Graduate School Scientific Writing Resource
- Advice Collection

Advice Collection

[\[Feedback\]](#)

(Maintained by [Tao Xie](#) and [Yuan Xie](#))

- Ph.D. dissertation/research advice
- Presentation advice
- Technical writing/research advice
- Technical reviews/referee advice
- Advice for faculty
- Job hunting advice
- Misc. advice
- English learning advice

Ph.D. dissertation/research advice:

- [Advice by Tao Xie](#)
- [Reflections and advice on life as a mid-stage Ph.D. student by Philip Gan](#)
- [Inauguring Research & Development: R&D student internship/student job advice](#)
- [Getting a Ph.D. at the University of Southern California by Yvny Bram](#)
- [Pithy advice for graduate school by Rachel Pottinger and Kathryn S. McKinley](#)
- [Some grad school advice by Noah Smith](#)
- [Advice by David Drury](#)
- [Advice on How to Start into Research and Advice on Writing Research Papers by Tao Xie](#)
- [Writing a Research Paper by Jim Reggia](#)
- [Networking by Mary Jean Harold and Kathryn S. McKinley](#)
- [The Researcher's Bible by Alan Bundy et al.](#)
- [Advice for Prospective Research Students on Contacting Potential Advisors by David Evans](#)
- [Suggested guidelines for finding "related work" for conference papers, by Gail Kaiser](#)
- [A course on Programming for Statistical Research offered at NCSU Stat Dept](#)
- [Principles of Effective Research by Michael A. Nielsen](#)
- [The Ph.D. Experience by Jeff Offutt](#)
- [From Harvard's advice on doing research](#)
- [Citations: Why do we cite papers? by Jeff Offutt](#)
- [The scientific method by Jeff Offutt](#)
- [What is a PhD? by Jeff Offutt](#)
- [Thoughts on choosing an advisor by Jeff Offutt](#)
- [Thoughts on reading papers by Jeff Offutt](#)
- [Thoughts on writing a Ph.D. proposal by Jeff Offutt](#)
- [How to organize your files from Jason Eamer's advice](#)
- [How to evaluate an advisor from Jason Eamer's advice](#)
- [How to find a good advisor from Jason Eamer's advice](#)
- [How to write an a Ph.D. dissertation from Jason Eamer's advice](#)
- [Advice for Computer Science College Students by Joel Spolsky](#)
- [How to Start Research in Computer Networks? by Ahmed Helmy](#)
- [How to Be a Good Graduate Student by Marie desJardins, UMBC](#)
- [How to Succeed in Graduate School \(Marie desJardins\)](#)
- [Excellent advice about graduate school life by Ronald T. Azuma, University of Virginia](#)
- [Discussion on Ph.D. thesis proposals in computing science by H. C. Lau](#)
- [How to write a PhD Thesis given at the doctoral symposium at ASE03 \(Oct 2003\) by Steve Easterbrook](#)
- [Advice for finishing a Ph.D. \(pdf document containing slides by Prof. Daniel M. Berry\) Lecture](#)

Next week

We will have 3 guest speakers for next lecture:

- Siyuan LI, from Professor Stan Z. LI's lab
- Zian NING, from Professor Shiyu ZHAO's lab
- Zifeng ZHUANG, from Professor Donglin WANG's lab