

Appendix of SciPostLayout: A Dataset for Layout Analysis and Layout Generation of Scientific Posters

Shohei Tanaka¹
shohei.tanaka@sinicx.com

Hao Wang^{2,1}
conan1024hao@akane.waseda.jp

Yoshitaka Ushiku¹
yoshitaka.ushiku@sinicx.com

¹ OMRON SINIC X Corporation
Nagase Hongo Building 3F, 5-24-5
Hongo,
Bunkyo-ku, Tokyo, Japan

² Waseda University
1-6-1 Nishi-Waseda, Shinjuku-ku,
Tokyo, Japan

Appendix A Additional Examples of Layout Generation

Figure 1-5 shows example layouts which the models generated in layout generation experiment of Section 4.2. As shown in Section 4.2, LayoutPrompter tends to generate aligned layouts with less overlap. LayoutDM generated layouts with overlap that are not similar to the real layouts. In Section 4.2, the FID values of LayoutDM tend to be lower than the values of other models, but larger than the FID value of LayoutPrompter in the Refinement setting, which was able to generate similar layouts to the real layouts. In other words, LayoutDM can generate layouts that similar to the real layout distribution than other models, but it cannot generate layouts that can be judged similar to the real layouts in subjective evaluation.

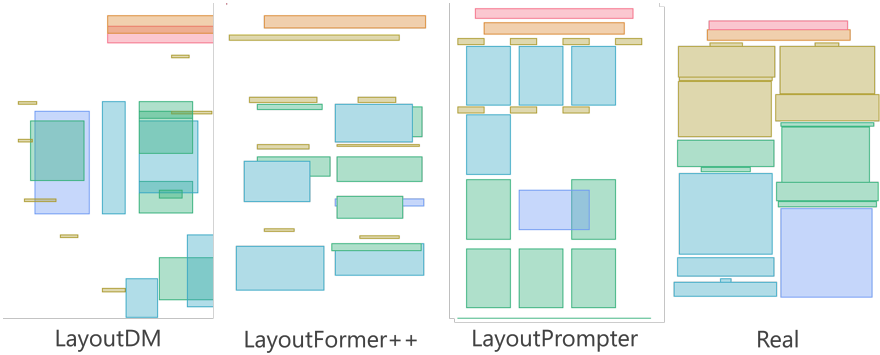


Figure 1: Examples of generated layouts and the real layout in the Gen-T setting.

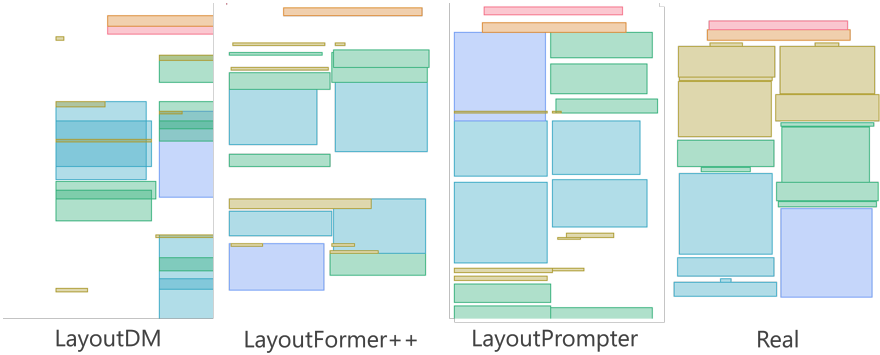


Figure 2: Examples of generated layouts and the real layout in the Gen-TS setting.

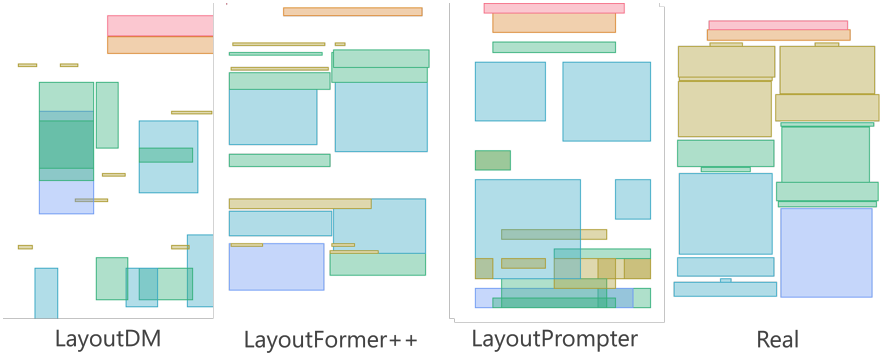


Figure 3: Examples of generated layouts and the real layout in the Gen-R setting.

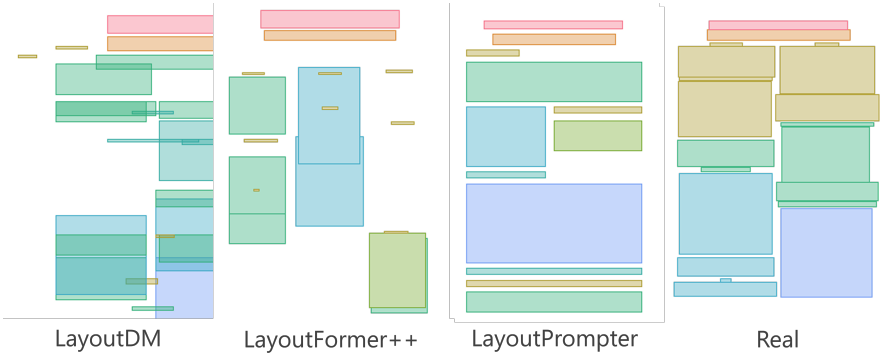


Figure 4: Examples of generated layouts and the real layout in the Completion setting.

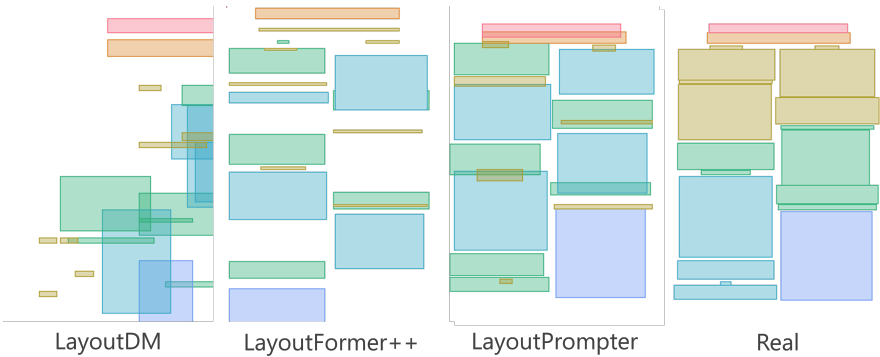


Figure 5: Examples of generated layouts and the real layout in the Refinement setting.

Appendix B Prompts for Paper-to-Layout

Listing 1 is the prompt to extract element type constraints from a scientific paper in the Gen-T setting in Section 4.3.

Task: Analyzing and Extracting Layout Generation Constraints for Scientific Poster

You are provided with a parsed text file extracted from a scientific paper in PDF format. Your goal is to analyze the content and determine the layout generation constraints for a scientific poster. The poster should be structured into the following eight categories:

- 1.Title: The title of the paper. Typically, there's only one block in a poster.
- 2.Author Info: Authors' names and affiliations. Typically, there's only one block in a poster.
- 3.Section: Section names. Include only important sections.
- 4.Text: Paragraphs. Merge paragraphs describing similar content into one block.
- 5.List: Itemization, including experimental procedure, enumeration of conditions, reference list, etc.
- 6.Table: Tables.
- 7.Figure: Figures.
- 8.Caption: Captions of tables and figures. The number of captions should match the combined total of 6. Table and 7. Figure.

The goal is to determine the number of elements for each category that should be included in the generated poster. Consider that not all elements from the paper need to be included in the poster; prioritize the most important parts. Provide a detailed breakdown of the number of elements for each category. For example, if the paper includes 1 Title, 1 Author Info, 5 Section, 10 Text, 2 List, 1 Table, 2 Figure and 3 Caption blocks, specify these quantities for efficient poster generation.

Please return the results in JSON format, don't say anything else.

Below is the text file:

Listing 1: Prompt to extract element type constraints from a scientific paper

Listing 2 is the prompt to generate a summary of a scientific paper in the Gen-P setting in Section 4.3.

```
Please summarize the following paper within 1000 words.  
The summary does not need to include all elements of the  
    paper, but should prioritize important elements such as  
    proposed methods and main experimental results.  
The summary should include the title and the author names of  
    the paper.  
Use the same wording as in the paper's abstract.  
DO NOT generate redundant messages.
```

Listing 2: Prompt to generate a summary of a scientific paper