Supplementary Material of Fantastic Style Channels and Where to Find Them: A Submodular Framework for Discovering Diverse Directions in GANs

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1. Background channels

Background is one of the most popular types of edits offered in stylespace. Figure 1 shows various background channels in stylespace retrieved.

2. Different Options for SeFa

SeFa [1] uses different layer options when producing the directions. We chose the option 6-13 for comparison since it offers the most semantically meaningful edits compared to other options. We list other options in Figure 4.

3. Interactive Editing

Additional samples for filtered clusters based on a region specified by the user is shown in Figure 2.

4. Style Atlas Platform

A view of the stylespace exploration platform where each group represents a different region, such as *nose* or *eyes* is shown in Figure 3.

References

[1] Yujun Shen and Bolei Zhou. Closed-form factorization of latent semantics in gans. *arXiv preprint arXiv:2007.06600*, 2020.

Figure 1: Various background channels in the style space retrieved based on the heatmap on the upper left.
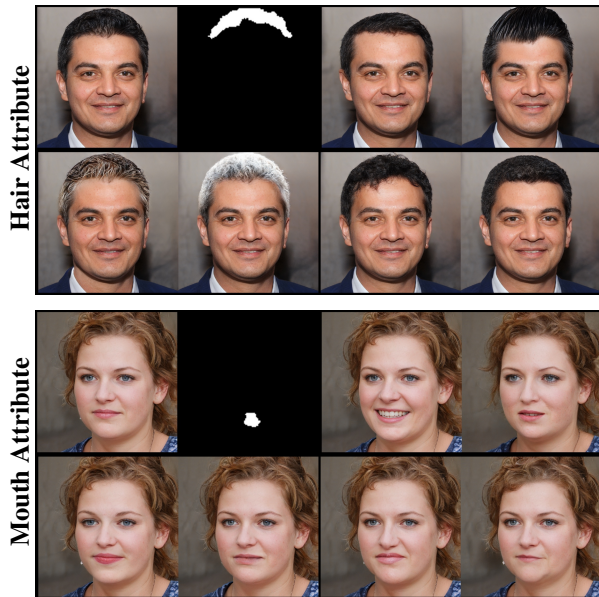

Figure 2: **Filtered clusters based on a region specified by the user**. The two images in the upper left show the input image and the region specified by the user, while the other images show a randomly selected channel from each retrieved cluster.
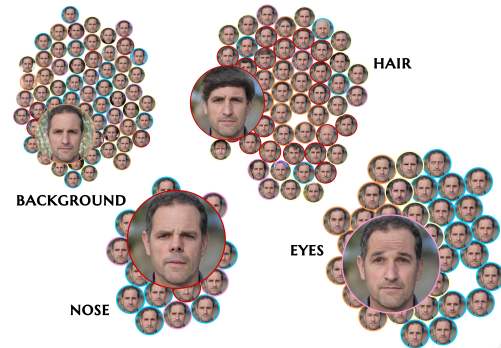

Figure 3: A view of the stylespace exploration platform where each group represents a different region, such as *nose* or *eyes*. The bubbles represent manipulation done by a particular channel. The colors around the bubbles represent different layers (zoom for better view).

Figure 4: Different options for SeFa[1]: all layers (a), 0-1 layers (b), and 2-5 layers (c).