

Mitigating Intensity Bias in Shadow Detection via Feature Decomposition and Reweighting

Lei Zhu¹ Ke Xu^{2†} Zhanghan Ke¹ Rynson W.H. Lau^{1†}

¹City University of Hong Kong ²Shanghai Jiao Tong University

lzhu68-c@my.cityu.edu.hk, kkangwing@gmail.com, zhanghake2-c@my.cityu.edu.hk, Rynson.Lau@cityu.edu.hk

1. Overview

In this supplementary material, we first provide more qualitative comparison results with latest state-of-the-art methods, including DSC [2], ADNet [3], BDRAR [10], DSD [7], MTMT [1], and ITSD [8], on the SBU [5] (Fig. 1), UCF [9] (Fig. 2), and ISTD [6] (Fig. 3) test sets. Then, we visualize intermediate features \mathbf{F} , \mathbf{F}_i , \mathbf{F}_v and \mathbf{F}_r (*i.e.*, features before decomposition, intensity-invariant features, intensity-variant features and reweighted features), in Fig. 4. The feature visualization is performed via Grad-CAM [4].

References

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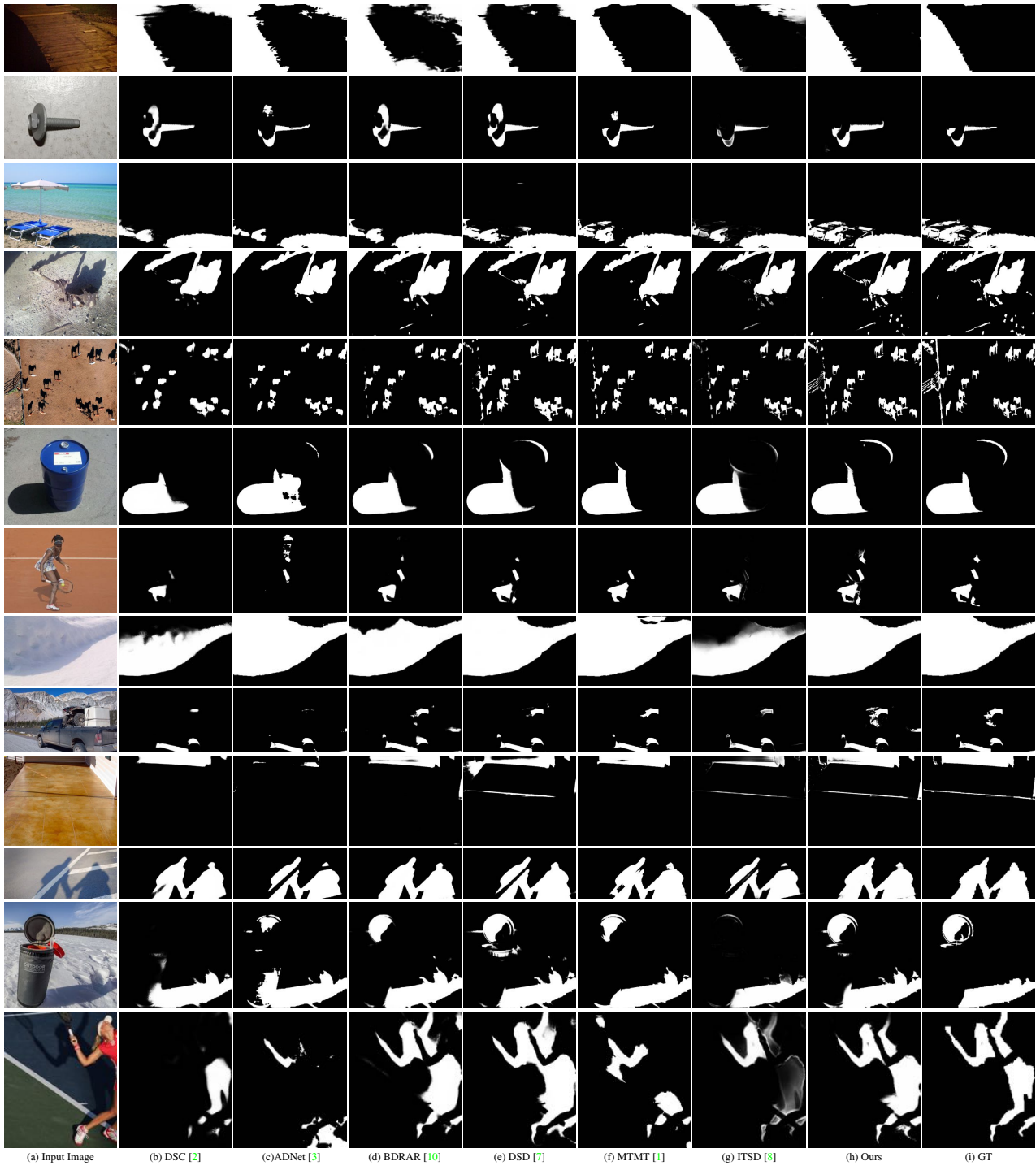


Figure 1. Qualitative comparisons of the proposed method with the most recent state-of-the-art methods on SBU[5] test set.

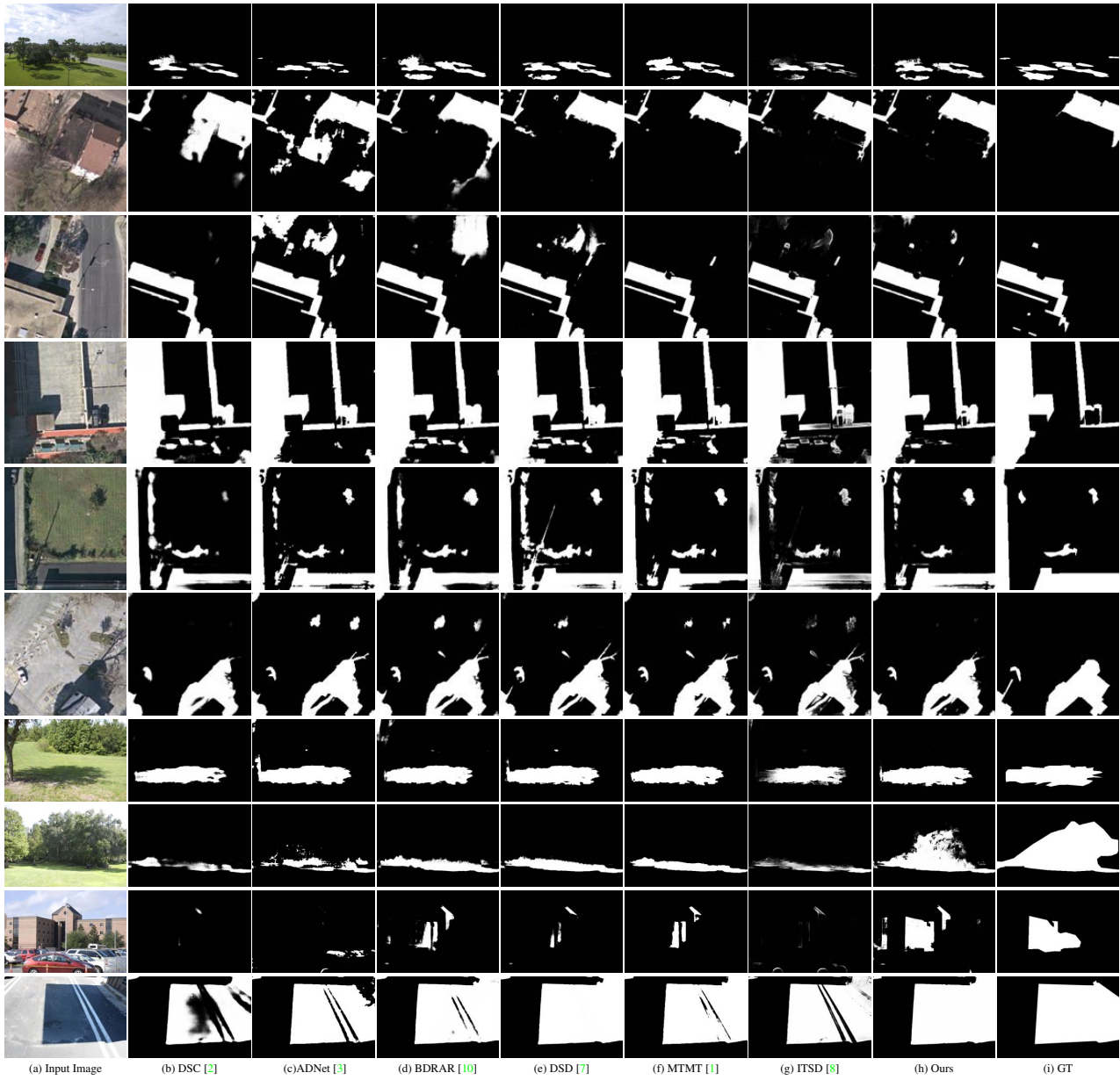


Figure 2. Qualitative comparisons of the proposed method with the most recent state-of-the-art methods on UCF[9] test set.

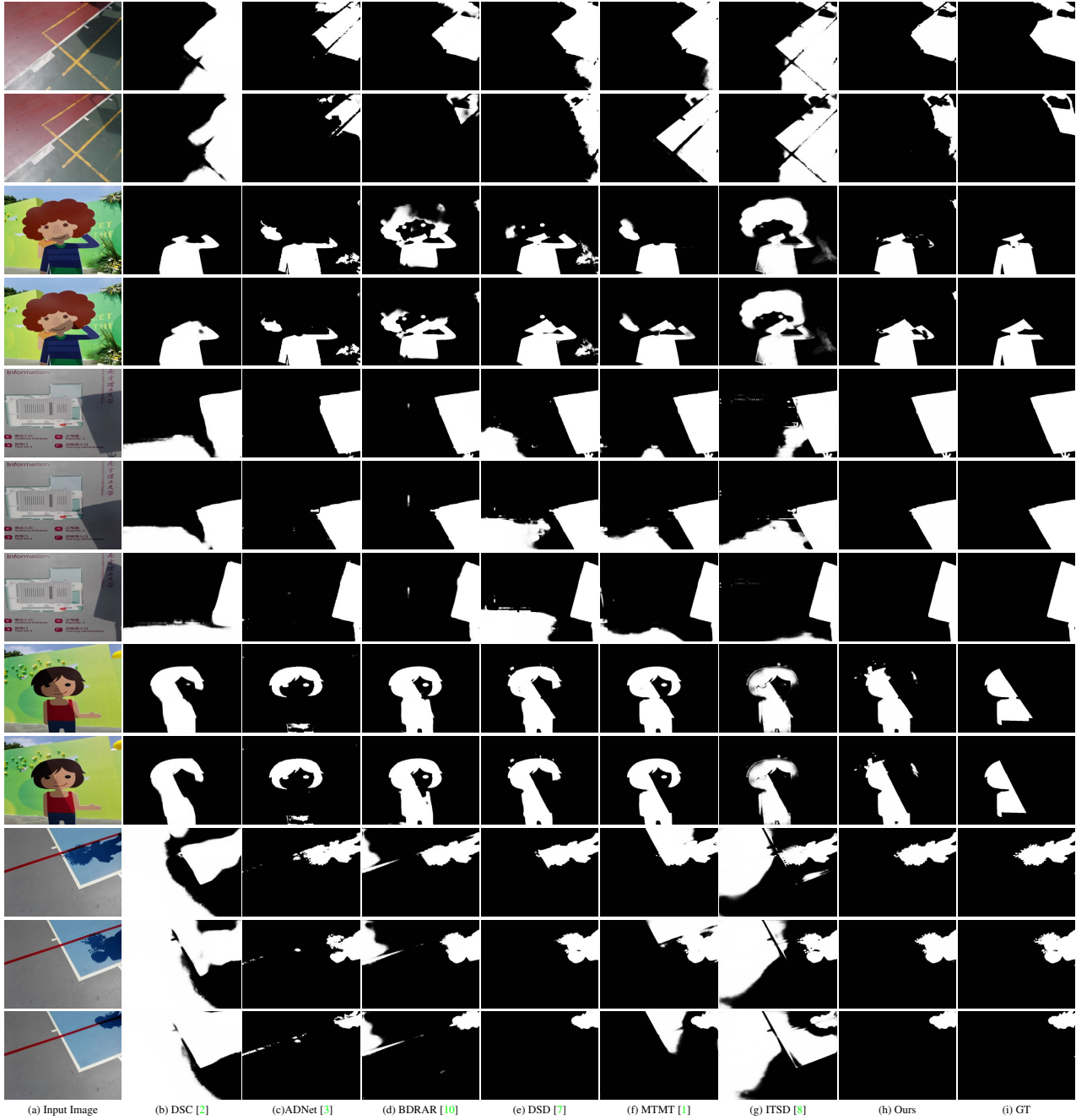


Figure 3. Qualitative comparisons of the proposed method with the most recent state-of-the-art methods on ISTD[6] test set.

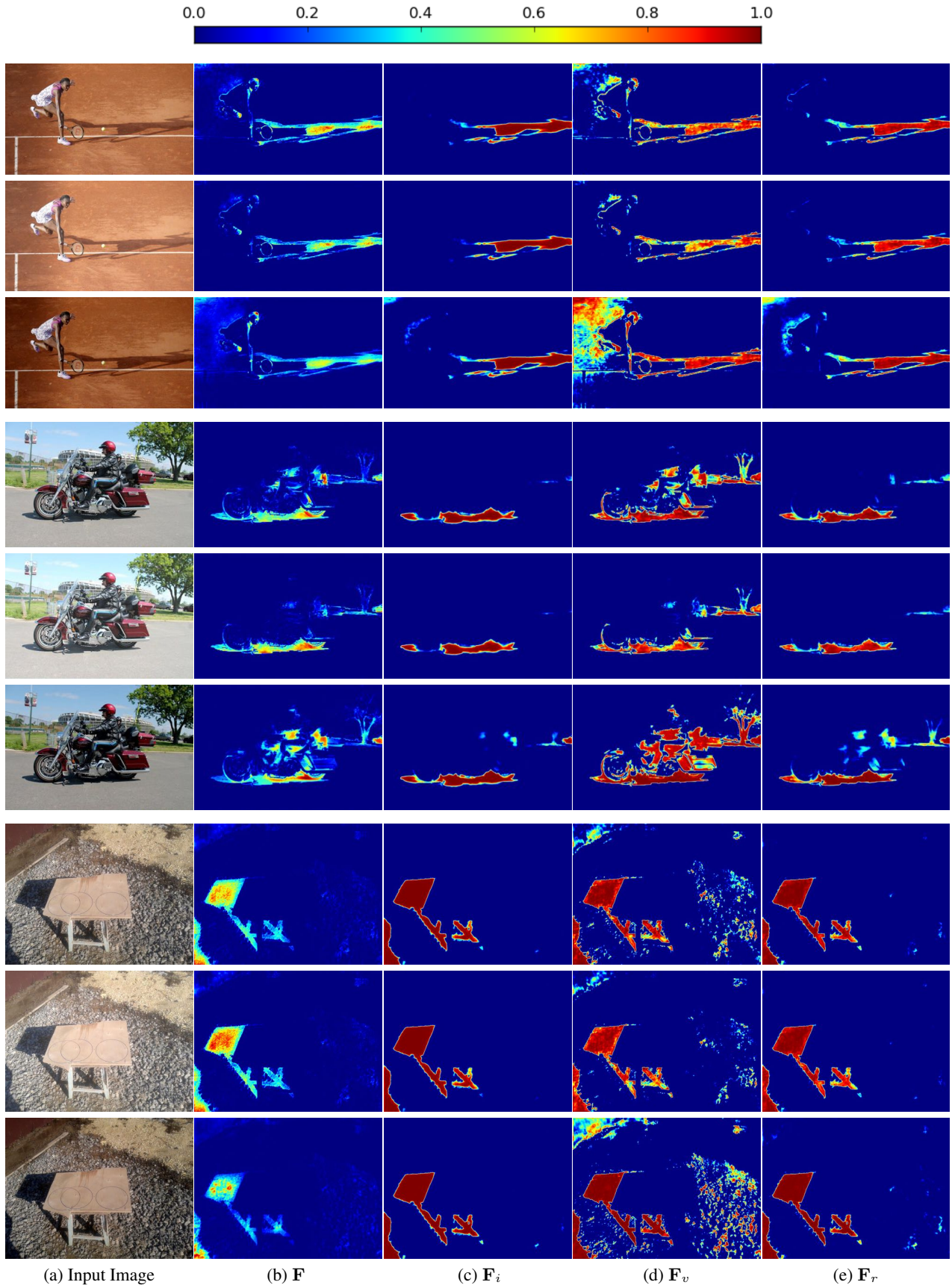


Figure 4. Feature map visualization using GradCAM [4]. In each example, we show the original image (top row), its brighter counterpart (second row) and its darker counterpart (third row). From left to right: (a) input image, (b) \mathbf{F} : features before decomposition, (c) \mathbf{F}_i : intensity-invariant features, (d) \mathbf{F}_v : intensity-variant features, (e) \mathbf{F}_r : recombined features.