

FusionRegister: Every Infrared and Visible Image Fusion Deserves Registration

Supplementary Material

1. Details of Feature Extractor

The Feature Extractor (FE) is implemented as follows: At each scale, a Dense Block, comprising $n = 12$ residual-connected Convolution Blocks (each with a 3×3 convolution and ReLU) extracts preliminary multi-scale features $F_f^i \in \mathbb{R}^{B \times (2^i C) \times (H/2^i) \times (W/2^i)}$. Cross-scale feature interaction is achieved by fusing features of a common size via Convolution Blocks. The Dense Block enhances FusionRegister’s capacity to model misregistration patterns. (the Feature Extractor in Fig.1)

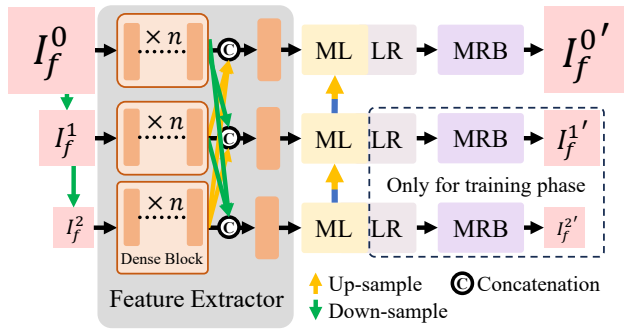


Figure 1. The global architectural framework of FusionRegister.

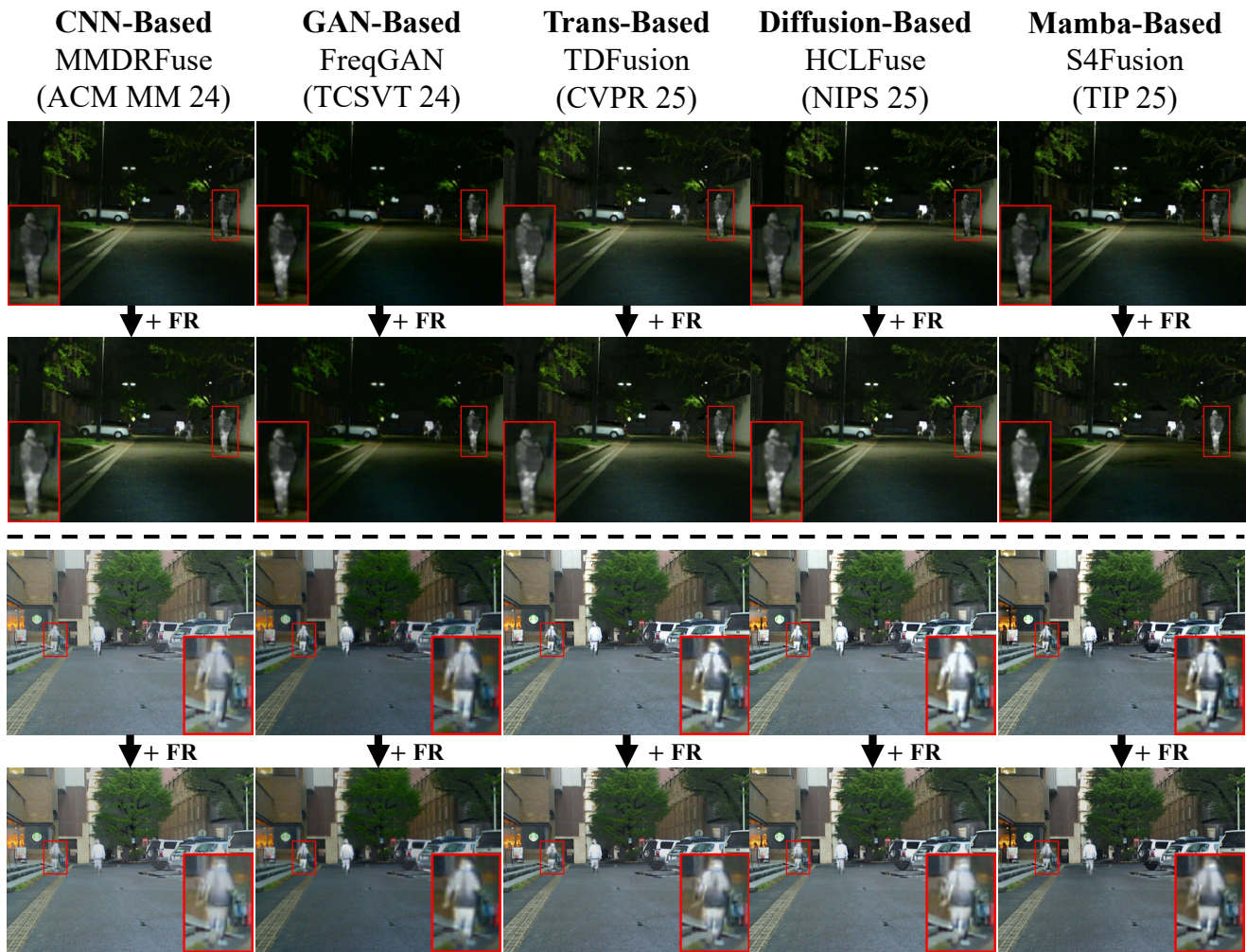


Figure 2. As a general framework, FusionRegister successfully completes post-registration for different fusion methods and scenarios.

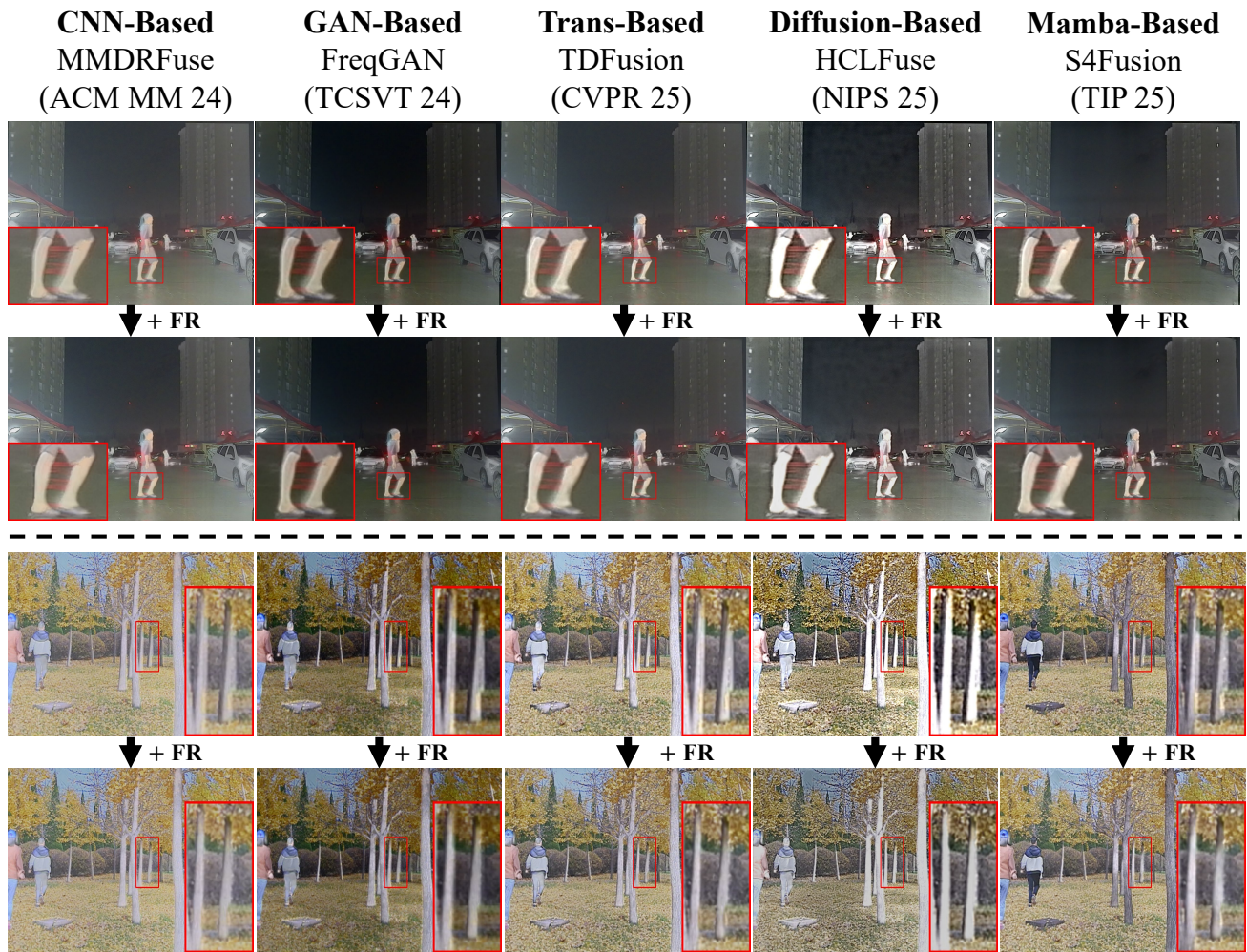


Figure 3. As a general framework, FusionRegister successfully completes post-registration for different fusion methods and scenarios.

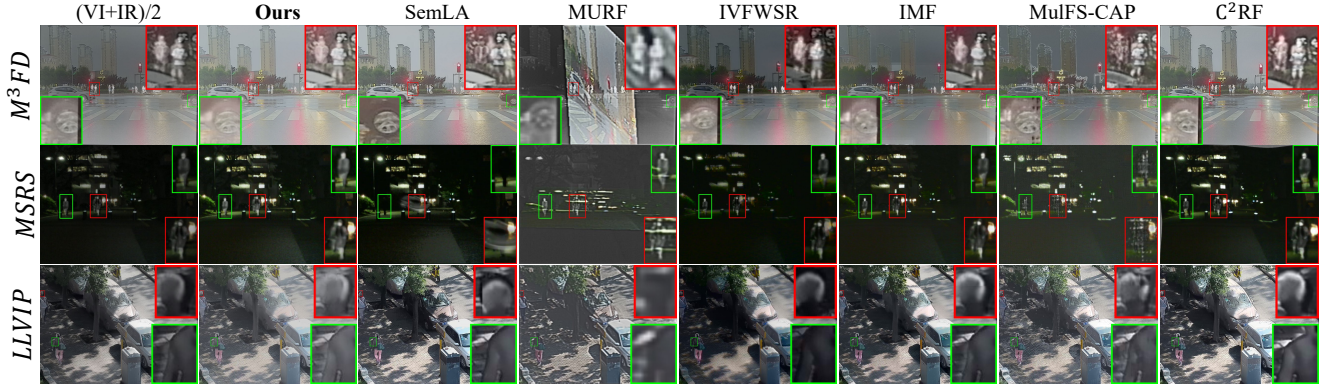


Figure 4. A comparative experiment between FusionRegister and existing registration joint fusion methods.

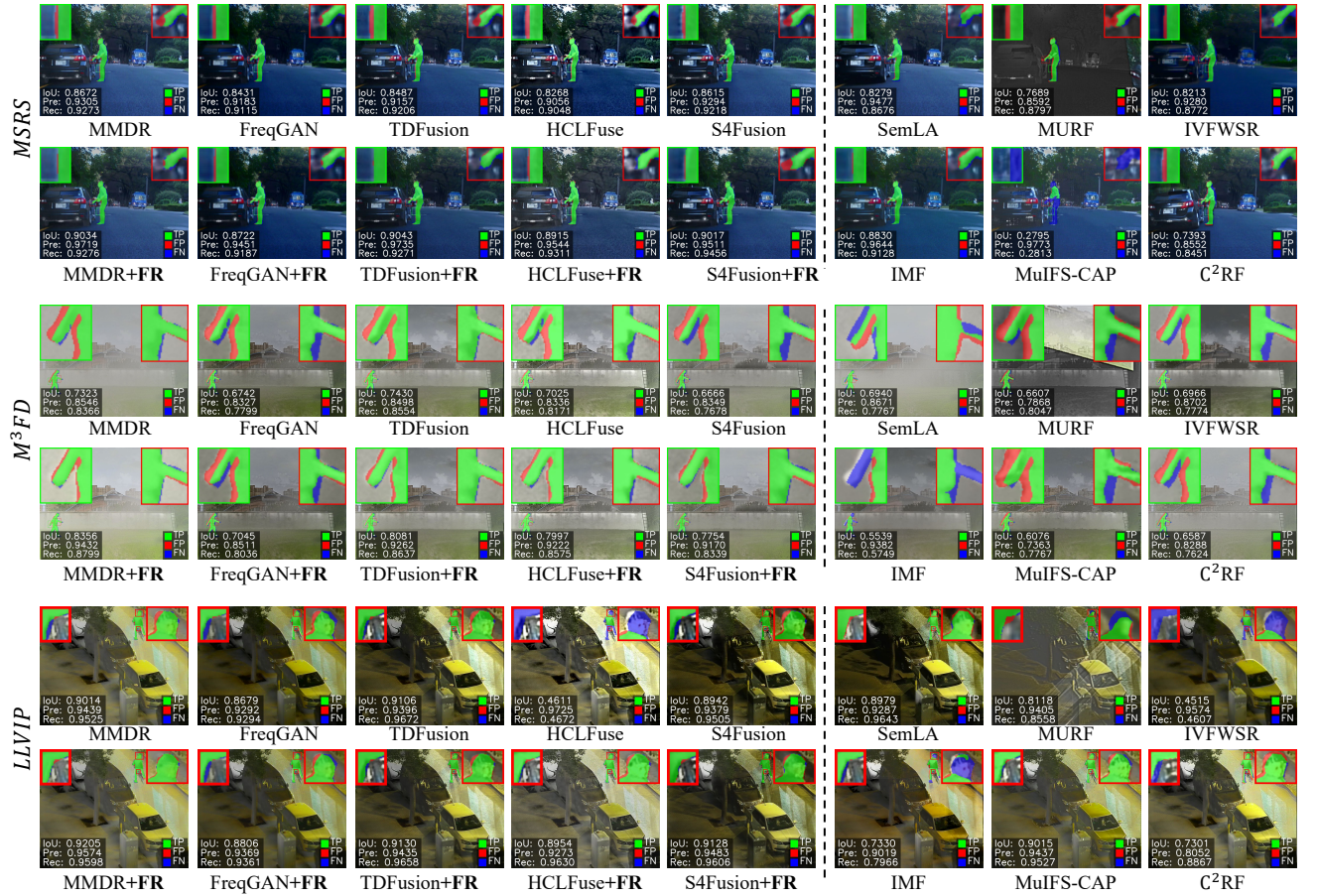


Figure 5. SAM is used to verify the registration quality of the fusion results. The visualization is color-coded, where green indicates true positives, red indicates false positives, and blue indicates false negatives.