Iterative Multi-Scale Residual Dense Network for Single Image Deraining

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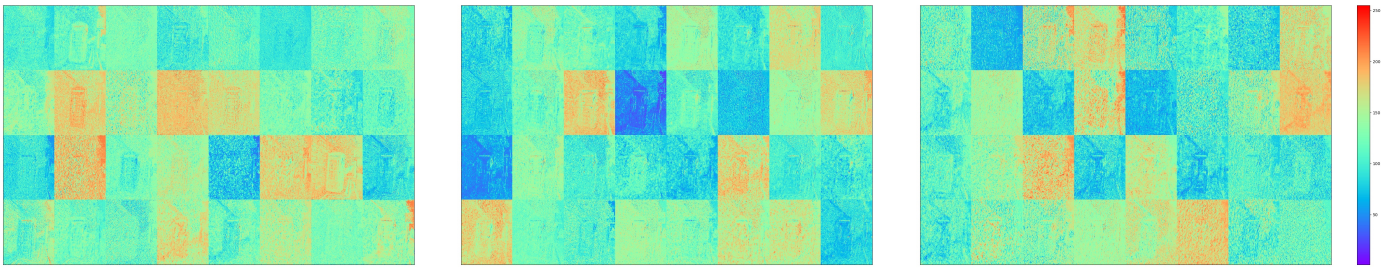
Overview. In this supplementary material, we firstly visualize the learnt feature maps of the chain fusion, concatenation fusion, and iteration fusion and the learnt feature maps of dense block (DB), residual dense block (RDB), multi-scale dense block (MDB), and multi-scale residual dense block (MRDB) to verify that the proposed method can fully extract and exploit multi-scale features. Furthermore, we provide more derained results on real-world rainy images to demonstrate the effectiveness of the proposed iterative multi-scale residual dense network (IMRDN).

1 Visualization of Learnt Feature Maps

Rainy Image **Derained Image** **Ground Truth**

1.1 Feature Maps Visualization of Different Fusion Strategies



Chain Fusion Concatenation Fusion Iteration Fusion

Figure 2: Feature maps visualization using different fusion strategies (chain fusion, concatenation fusion, and iteration fusion). The testing image is shown above.

1.2 Feature Maps Visualization of Different Models

Figure 3: Feature maps visualization of dense block (DB), residual dense block (RDB), multi-scale dense block (MDB), and multi-scale residual dense block (MRDB) in four models. The testing image is shown above.

2 Comparison on Real-World Rainy Images

Rainy

JORDER [Yang *et al.*2017]

DID-MDN [Zhang and Patel2018]

RESCAN [Li *et al.*2018b]

NLEDN [Li *et al.*2018a]

Ours

Rainy

JORDER [Yang *et al.*2017]

DID-MDN [Zhang and Patel2018]

RESCAN [Li *et al.*2018b]

NLEDN [Li *et al.*2018a]

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Rainy

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NLEDN [Li *et al.*2018a]

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NLEDN [Li *et al.*2018a]

Ours

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JORDER [Yang *et al.*2017]

DID-MDN [Zhang and Patel2018]

RESCAN [Li *et al.*2018b]

NLEDN [Li *et al.*2018a]

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DID-MDN [Zhang and Patel2018]

RESCAN [Li *et al.*2018b]

NLEDN [Li *et al.*2018a]

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RESCAN [Li *et al.*2018b]

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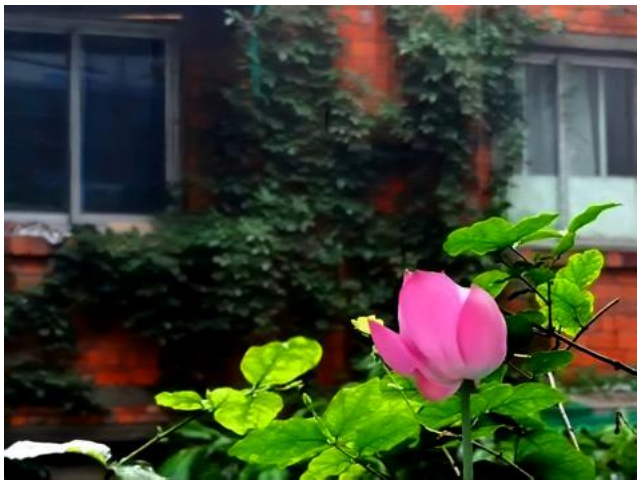

Ours

Rainy

JORDER [Yang *et al.*2017]

DID-MDN [Zhang and Patel2018]

RESCAN [Li *et al.*2018b]

NLEDN [Li *et al.*2018a]

Ours

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