FINAL PROJECT PROPOSAL

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"Image Inpainting

PREFACE

➤ <u>Motivation</u>

Hole Filling — How About Recovering the Corrupted Image?

➤ <u>Problem Definition</u>

How to Implement Image Inpainting?

— Image Inpainting is the task of filling holes in an image!

APPROACH I

➤ Patch Match

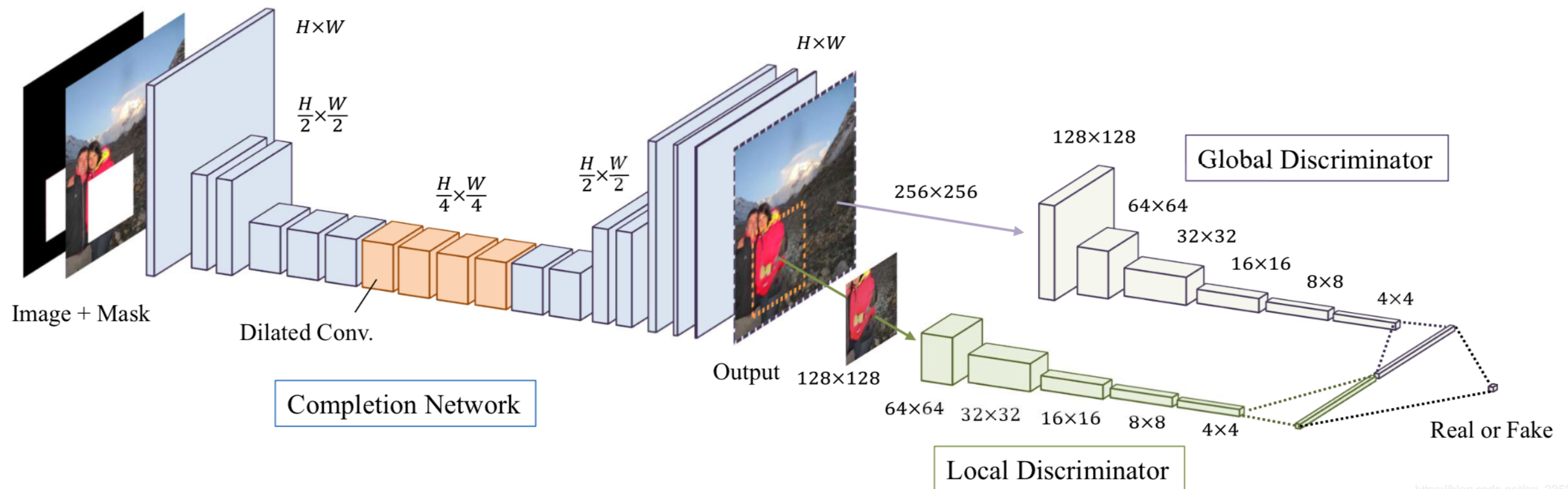Recover by the other area in the image.

APPROACH II

➤ <u>Globally and Locally consistent</u>

Encoder and Decoder through CNN

Globally (whole image) and Locally (area of mask) scoring

APPROACH III

➤ <u>Partial Convolution</u>

Based on Deep Convolution Neural Network

Mask and Image both involve in Training

Only Implement in Validated Area

＊ *Red: All 1, standard convolution*

＊ *Green: Some 0, learn from neighbor pixels*

＊ *Blue: Don't do anything at first*

EXPECTED RESULTS

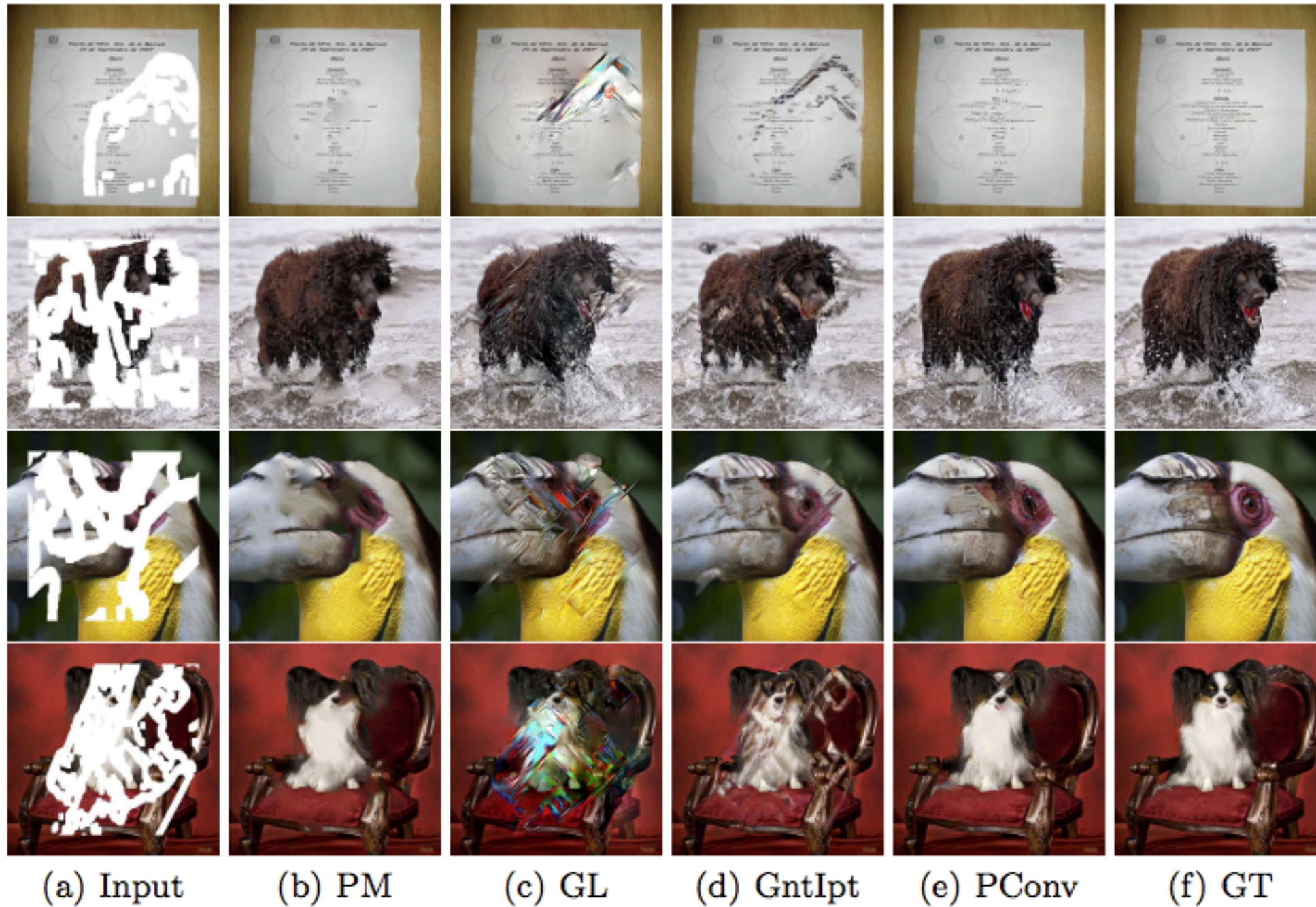(a) Input (b) PM (c) GL (d) GntIpt (e) PConv (f) GT

Fig. 5. Comparisons of testing results on ImageNet

REFERENCE

Image Inprinting for Irregular Holes Using Partial Convolutions

— *NVIDIA Corporation, Decenber 2018*

Globally and Locally Consistent Image Completion

— *Waseda University, July 2017*

Context-Encoders: Feature Learning by Inpainting

— *Berkeley CVDR, April 2016*