1 More results to establish statistical confidence

Apart from the digit pairs presented in the main paper, we have included four more results from new digit pairs in this draft. The aim of presenting different digit pairs is to demonstrate the confidence of the proposed metric "Absolute area of ACE (A-ACE)". The sample digits are illustrated in subfigures (a) and (b) of figure 1, 2, 3, and 4. The corresponding subfigure (c) in each of those figures shows the absolute area of ACE for the handpicked pixels. The pixels which are associated with highest absolute area of ACE are the distinguishing pixels for that particular digit. The handpicked pixels are marked with red color in the sample digits and background pixels are marked with green color.
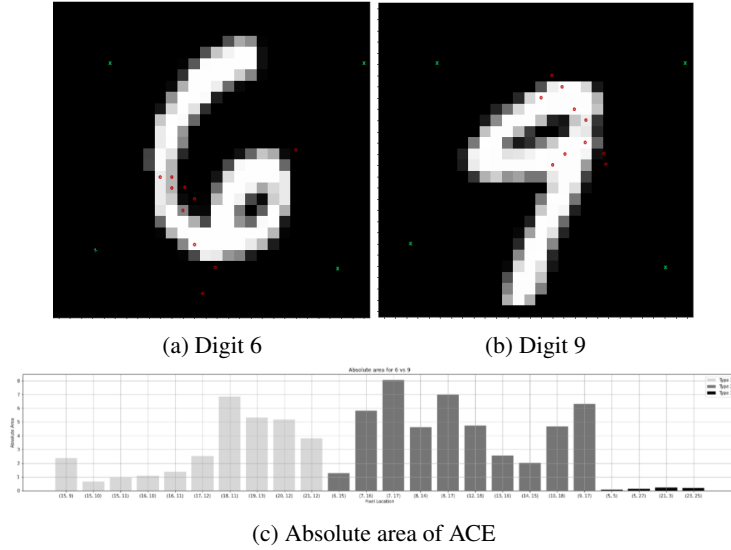

(a) Digit 6   (b) Digit 9

(c) Absolute area of ACE

Figure 1: Sample digits (a) 6 and (b) 9. (c) Proposed Metric : Absolute area of ACE "A-ACE" for handpicked pixels.

2 Comparison with SOTA

To demonstrate the effectiveness of our proposed metric "A-ACE", we have used an image from ILSVRC validation set to compute "A-ACE". The model used is a pretrained model ResNet-101 The goal of this experiment is to illustrate comparison with the cnn fixation method.
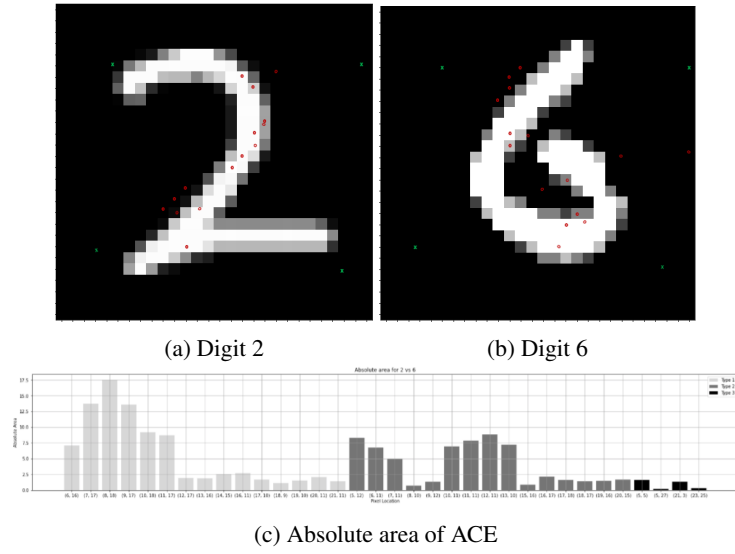
(a) Digit 2   (b) Digit 6

(c) Absolute area of ACE

Figure 2: Sample digits (a) 2 and (b) 6. (c) Proposed Metric : Absolute area of ACE "A-ACE" for handpicked pixels

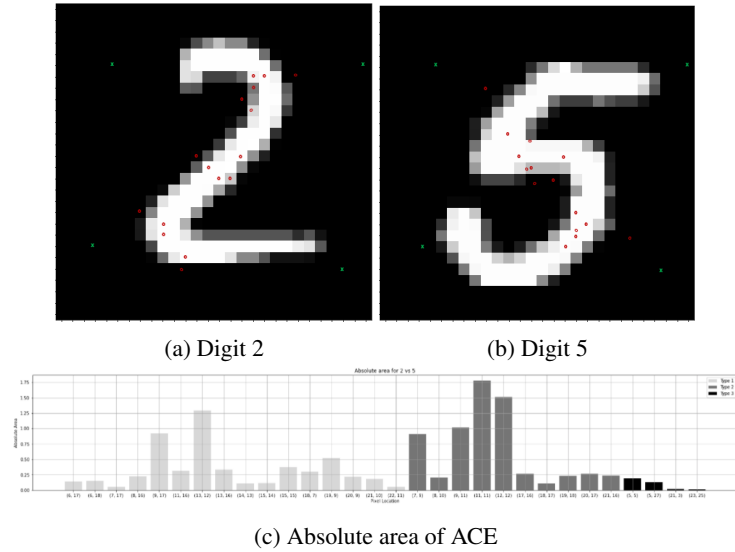(a) Digit 2   (b) Digit 5

(c) Absolute area of ACE

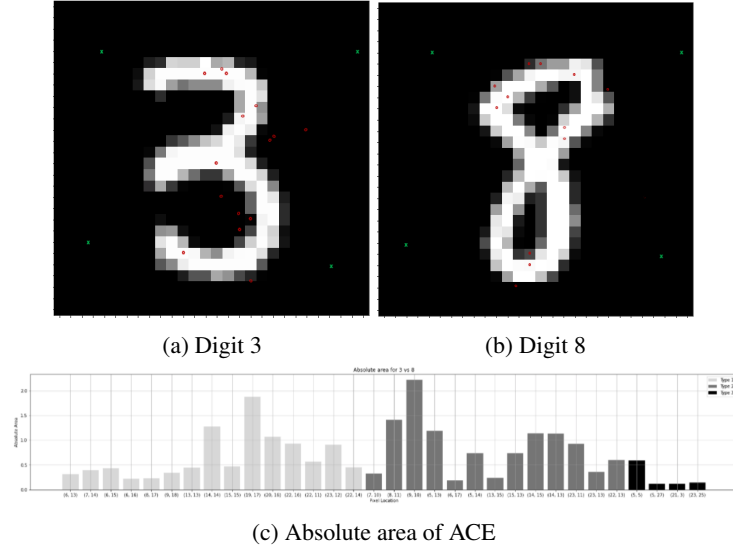Figure 3: Sample digits (a) 2 and (b) 5. (c) Proposed Metric : Absolute area of ACE "A-ACE" for handpicked pixels

(a) Digit 3   (b) Digit 8

(c) Absolute area of ACE

Figure 4: Sample digits (a) 3 and (b) 8. (c) Proposed Metric : Absolute area of ACE "A-ACE" for handpicked pixels

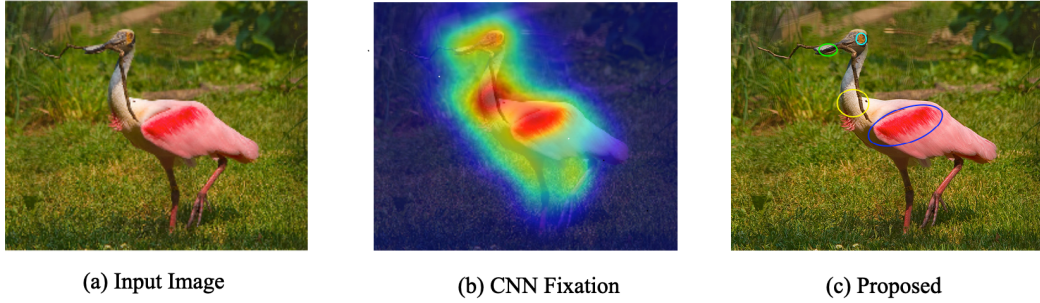(a) Input Image   (b) CNN Fixation   (c) Proposed

Figure 5: Comparison of the localization regions for sample images from ILSVRC validation set for CNN fixation and proposed metric for ResNet-101. Our metric shows higher A-ACE value for the encircled region in the descending order encoded by color - violet, green, blue and red
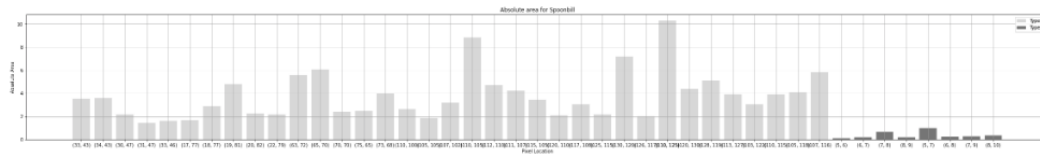

Figure 6: Absolute area of ACE for handpicked pixels of input image