Algorithm 2 iR-CAD(Inverse Transformed Residual Image)

Input: Inverse Transformed Residual Image: $R'(x,y)$, of size M×N Output: Reconstructed Grayscale Image, I(x, y)
Reverse Transformation:

1: Read the Residual image: $R'(x, y)$.
2: Regenerate the pivot row:
3: Initialize $i \leftarrow 1$
4: Repeat until $i \leq N - 1$
5: $I(1,j) \leftarrow R'(1,j) + R'(1,j-1)$
6: Regenerate the pivot column:
7: Initialize $i \leftarrow 1$
8: Repeat until $i \leq M - 1$
9: $I(j,1) \leftarrow R'(j,1) + R'(j-1,1)$
10: Perform diagonal averaging operation to get the reconstructed image, I(x, y) as follows:
11: $\text{Initialize} i \leftarrow 1 \text{and} j \leftarrow 1$
12: $\text{Repeatuntili} \leq M-1 \text{and} j \leq N-1$
13: $I'(i, j) \leftarrow R'(i, j) + I(i,j-1)+I(i-1,j)$
14: Return $I'(x, y)$