Algorithm 1: Decease Group Differential Evolution algorithm

Input: Input image: x; Classifier: f; Random noise: R; Times of random noise attack: r; Threshold of probability: ρ; Step of attack: λ; The weight of constraint: γ; classify score: s; better score: b

Output: The perturbation with least number of pixels: e^*

e^* - matrix of random noise, same size as x;
while $f(x+e^*) < \rho$ do
    while iterations $< r$ do
        $e = e^* + \lambda * R$;
        $s = f(x+e) + \gamma * \frac{e^* - R}{e^*}$;
        if $s < s - b$ then
            $e^* \leftarrow e$;
            $b \leftarrow s$;
        else
    end
    return e^*
end

Figure S1 The pseudocode of the decrease group differential evolution algorithm.

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