CLAIMS

What is claimed is:

1. A computer-implemented method for verifying authenticity of an image, comprising:

identifying a baseline image depicting a baseline background, wherein the baseline background is an area of the baseline image other than an area occupied by a card;

identifying a comparison image depicting the card;

identifying a comparison background in the comparison image, wherein the comparison background is an area of the comparison image other than an area occupied by the card;

determining a probability that the baseline background matches the comparison background;

determining that the probability satisfies a verification threshold; and

in response to determining that the probability satisfies a verification threshold, determining that the comparison image was acquired by capturing an image of a physical card corresponding to the card depicted in the comparison image.

2. The computer-implemented method of claim 1, wherein the baseline image depicts a baseline card, the card depicted by the comparison image is a comparison card, the baseline image is acquired using a baseline camera setting, the comparison image is acquired using a comparison camera setting, and the method further comprising:

identifying a differentiation between the baseline card and the comparison card; and

inputting the differentiation to a classification model, wherein the classification model outputs an authenticity verification of the physical card.

3. The computer-implemented method of claim 2, wherein the baseline camera setting includes turning a flashlight on and the comparison camera setting includes turning the flashlight off.

4. The computer-implemented method of claim 1, wherein the physical card is an identity card including at least one of a head shot or a text associated with a card holder.

5. The computer-implemented method of claim 4, wherein the physical card includes a head shot, and the method further comprises:

identifying a comparison head shot in the comparison image;

verifying that the comparison head shot matches the head shot on the physical card; and

in response to verifying that the comparison head shot matches the head shot on the physical card, determining that an identity of the card holder is verified.

6. The computer-implemented method of claim 4, wherein the physical card includes text associated with the card holder, and the method further comprises:

identifying a comparison text in the comparison image;

verifying that the comparison text matches the text on the physical card; and

in response to verifying that the comparison text matches the text on the physical card, determining that an identity of the card holder is verified.

7. The computer-implemented method of claim 1, wherein determining that the probability of the baseline background matching the comparison background satisfies the verification threshold includes:

receiving a set of baseline positions associated with the baseline image and determined based on a gyroscope;

receiving a set of comparison positions associated with the comparison image and determined based on the gyroscope;

identifying a set of common positions including an intersection of the set of baseline positions and the set of comparison positions;

identifying a baseline area of the baseline background corresponding to the set of common positions and a comparison area of the comparison background corresponding to the set of common positions; and

wherein the probability is determined based at least in part on the baseline area matching the comparison area.

8. The computer-implemented method of claim 1, wherein the physical card has an anti-counterfeit mark, and the method further comprising:

identifying the anti-counterfeit mark in the comparison image of the physical card;

inputting the anti-counterfeit mark to a classification model, wherein the classification model outputs a probability of the anti-counterfeit mark being authentic; and

in response to determining that the probability of the anti-counterfeit mark being authentic satisfies a verification threshold, determining that the physical card is verified.

9. A non-transitory, computer-readable medium storing one or more instructions executable by a computer system to perform operations comprising:

identifying a baseline image depicting a baseline background, wherein the baseline background is an area of the baseline image other than an area occupied by a card;

identifying a comparison image depicting the card;

identifying a comparison background in the comparison image, wherein the comparison background is an area of the comparison image other than an area occupied by the card;

determining a probability that the baseline background matches the comparison background;

determining that the probability satisfies a verification threshold; and

in response to determining that the probability satisfies a verification threshold, determining that the comparison image was acquired by capturing an image of a physical card corresponding to the card depicted in the comparison image.

10. The non-transitory, computer-readable medium of claim 9, wherein the baseline image depicts a baseline card, the card depicted by the comparison image is a comparison card, the baseline image is acquired using a baseline camera setting, the comparison image is acquired using a comparison camera setting, and the operations further comprising:

identifying a differentiation between the baseline card and the comparison card; and

inputting the differentiation to a classification model, wherein the classification model outputs an authenticity verification of the physical card.

11. The non-transitory, computer-readable medium of claim 10, wherein the baseline camera setting includes turning a flashlight on and the comparison camera setting includes turning the flashlight off.

12. The non-transitory, computer-readable medium of claim 9, wherein the physical card is an identity card including at least one of a head shot or a text associated with a card holder.

13. The non-transitory, computer-readable medium of claim 12, wherein the physical card includes a head shot, and the operations further comprises:

identifying a comparison head shot in the comparison image;

verifying that the comparison head shot matches the head shot on the physical card; and

in response to verifying that the comparison head shot matches the head shot on the physical card, determining that an identity of the card holder is verified.

14. The non-transitory, computer-readable medium of claim 12, wherein the physical card includes text associated with the card holder, and the operations further comprises:

identifying a comparison text in the comparison image;

verifying that the comparison text matches the text on the physical card; and

in response to verifying that the comparison text matches the text on the physical card, determining that an identity of the card holder is verified.

15. The non-transitory, computer-readable medium of claim 9, wherein determining that the probability of the baseline background matching the comparison background satisfies the verification threshold includes:

receiving a set of baseline positions associated with the baseline image and determined based on a gyroscope;

receiving a set of comparison positions associated with the comparison image and determined based on the gyroscope;

identifying a set of common positions including an intersection of the set of baseline positions and the set of comparison positions;

identifying a baseline area of the baseline background corresponding to the set of common positions and a comparison area of the comparison background corresponding to the set of common positions; and

wherein the probability is determined based at least in part on the baseline area matching the comparison area.

16. The non-transitory, computer-readable medium of claim 9, wherein the physical card has an anti-counterfeit mark, and the operations further comprising:

identifying the anti-counterfeit mark in the comparison image of the physical card;

inputting the anti-counterfeit mark to a classification model, wherein the classification model outputs a probability of the anti-counterfeit mark being authentic; and

in response to determining that the probability of the anti-counterfeit mark being authentic satisfies a verification threshold, determining that the physical card is verified.

17. A computer-implemented system, comprising:

one or more computers; and

one or more computer memory devices interoperably coupled with the one or more computers and having tangible, non-transitory, machine-readable media storing one or more instructions that, when executed by the one or more computers, perform one or more operations comprising:

identifying a baseline image depicting a baseline background, wherein the baseline background is an area of the baseline image other than an area occupied by a card;

identifying a comparison image depicting the card;

identifying a comparison background in the comparison image, wherein the comparison background is an area of the comparison image other than an area occupied by the card;

determining a probability that the baseline background matches the comparison background;

determining that the probability satisfies a verification threshold; and

in response to determining that the probability satisfies a verification threshold, determining that the comparison image was acquired by capturing an image of a physical card corresponding to the card depicted in the comparison image.

18. The system of claim 17, wherein the baseline image depicts a baseline card, the card depicted by the comparison image is a comparison card, the baseline image is acquired using a baseline

camera setting, the comparison image is acquired using a comparison camera setting, and the operations further comprising:

identifying a differentiation between the baseline card and the comparison card; and

inputting the differentiation to a classification model, wherein the classification model outputs an authenticity verification of the physical card.

19. The system of claim 18, wherein the baseline camera setting includes turning a flashlight on and the comparison camera setting includes turning the flashlight off.

20. The system of claim 17, wherein the physical card is an identity card including at least one of a head shot or a text associated with a card holder.