What is claimed is:

1. A system for evaluating label placement on an object among a plurality of objects each substantially similar in size and having a label of substantially similar dimensions, the system comprising:

an imaging device configured to obtain an image of the object;

a storage device configured to store at least one trained machine learning (ML) model that is trained to establish a correspondence between an input image and recognitions of an object, a label associated with the object, and features of the object or the label from the input image; and

a programmable circuit configured to:

apply the at least one trained ML model to the obtained image to recognize a morphological feature of the object and a morphological feature of the label, and to determine a spatial metric between the recognized morphological feature of the label and the recognized morphological feature of the object; and

based at least in part on the determined spatial metric, generate a label placement indicator to indicate whether the label placement is within predetermined tolerances on the object.

2. The system of claim 1, wherein the morphological feature of the object includes a first edge of the object, the morphological feature of the label includes a second edge of the label, the spatial metric includes a distance between the first edge of the object and the second edge of the label,

wherein the programmable circuit is configured to generate the label placement indicator including one or more of (i) a positive placement indication if the determined distance between the first and the second edges is within a predetermined range, or (ii) a misplacement indication if the determined distance between the first and the second edges is outside the predetermined range.

3. The system of claim 2, wherein the object is a drug injection device comprising two interconnectable elements and a cylindrical exterior portion to display the label,

wherein the morphological feature of the object includes a seam between the two interconnectable elements of the drug injection device.

4. The system of claim 3, wherein the first and the second edges are each represented by respective sets of image pixels spatially distributed at least along a longitudinal direction of the cylindrical exterior portion,

wherein the programmable circuit is configured to determine the spatial metric including a distance between centroids of respective sets of image pixels representing respectively the first and the second edges.

5. The system of claim 2, wherein the at least one trained ML model includes first and second trained ML models for the first and the second edges, respectively,

wherein the programmable circuit is configured to apply the first trained ML model to the obtained image to recognize the first edge, and to apply the second trained ML model to the obtained image to recognize the second edge.

6. The system of claim 1, wherein the programmable circuit includes a training module configured to generate or update the ML model using a training dataset comprising a plurality of images of objects substantially similar in size, the objects each having a label of substantially similar dimensions and variations in label placement on the objects.

7. The system of claim 6, wherein the plurality of images include images of objects at different poses, orientations, or rotations.

8. The system of claim 6, wherein the plurality of images include images artificially or algorithmically modified to obfuscate or partially obscure the morphological feature of the object.

9. The system of claim 1, comprising a user interface configured to generate a label misplacement alert when the label placement indicator indicates the label is not within the predetermined tolerances on the object.

10. The system of claim 1, comprising a robotic controller configured to robotically manipulate the object in accordance with the label placement indicator.

11. A method of evaluating label placement on an object among a plurality of objects each substantially similar in size and having a label of substantially similar dimensions, the method comprising:

obtaining an image of the object;

receiving from a storage device at least one trained machine learning (ML) model, the ML model trained to establish a correspondence between an input image and recognitions of an object, a label associated with the object, and features of the object or the label from the input image;

applying, via a programming circuit, the at least one trained ML model to the obtained image of the object to recognize therefrom a morphological feature of the object and a morphological feature of the label;

determining a spatial metric between the recognized morphological feature of the label and the recognized morphological feature of the object; and

based at least in part on the determined spatial metric, generating a label placement indicator to indicate whether the label placement is within predetermined tolerances on the object.

12. The method of claim 11, wherein:

the morphological feature of the object includes a first edge of the object;

the morphological feature of the label includes a second edge of the label;

the spatial metric includes a distance between the first edge of the object and the second edge of the label; and

the label placement indicator includes one or more of a positive placement indication if the determined distance between the first and the second edges is within a predetermined range, or a misplacement indication if the determined distance between the first and the second edges is outside the predetermined range.

13. The method of claim 11, wherein the object is a drug injection device comprising two interconnectable elements and a cylindrical exterior portion to display the label,

wherein the morphological feature of the object includes a seam between the two interconnectable elements of the drug injection device.

14. The method of claim 11, comprising generating a label misplacement alert when the label placement indicator indicates the label is not within the predetermined tolerances on the object.

15. The method of claim 11, comprising generating a control signal to robotically manipulate the object in accordance with the label placement indicator.