CLAIMS

1. An amusement park attraction system, comprising:

a queue area; and

a controller configured to:

receive first sensor data, the first sensor data comprising image data, at a first location in the queue area, indicative of one or more notable attributes associated with guests in the queue area, wherein the notable attributes comprise clothing attributes;

identify the associated notable attributes of the guests at the first location using the first sensor data;

identify a plurality of groups of two or more of the guests that are near one another in the queue area based on a combination of the identified notable attributes of the two or more guests;

rank the combination of identified notable attributes of each group of the plurality of groups based on distinguishability;

select a group of the two or more guests from the plurality of groups based on the ranking of the combination of identified notable attributes of each group;

receive second sensor data, the second sensor data comprising image data at a second location in the queue area, wherein the second sensor data is indicative of the one or more notable attributes associated with the guests in the queue area;

identify the combination of notable attributes using the second sensor data to track movement of the group of the two or more guests from the first location to the second location;

determine a duration of time between the identified group of two or more guests moving from the first location to the second location; and

adjust an operating mode of an attraction to have a shorter duration of operation based on the duration of time exceeding a threshold duration of time.

2. The amusement park attraction system of claim 1, wherein the controller is configured to:

determine a wait time associated with the queue area based on the duration of time; and

output the control signal based on the wait time.

3. The amusement park attraction system of claim 2, comprising a display, wherein the controller is configured to output the control signal to instruct the display to provide an image based on the wait time.

4. The amusement park attraction system of claim 3, wherein the queue area comprises an interactive device different from the display, and the controller is configured to output the control signal to instruct the interactive device to output an interactive visual effect, an interactive audio effect, or both based on the wait time.

5. The amusement park attraction system of claim 1, comprising:

a first sensor configured to detect the group of two or more of the guests at the first location of the queue area and transmit the first sensor data to the controller; and

a second sensor configured to detect the group of two or more of the guests at the second location of the queue area and transmit the second sensor data to the controller.

6. The amusement park attraction system of claim 1, wherein the clothing attributes comprise one or more types of articles of clothing, one or more colors of clothing, clothing patterns, or any combination thereof.

7. A non-transitory computer-readable medium comprising instructions that, when executed by a processor, are configured to cause the processor to:

receive a plurality of sensor data indicative of one or more notable attributes associated with respective groups of guests in a queue area of an amusement park attraction system;

rank each respective group of guests based on distinguishability of the one or more notable attributes associated with each respective group of guests;

select a group of guests based on the ranking of each respective group of guests;

compare first sensor data of the plurality of sensor data of the group of guests with second sensor data of the plurality of sensor data;

determine a confidence score associated with the comparison between the first sensor data of the plurality of sensor data and the second sensor data of the plurality of sensor data exceeds one or more threshold values;

determine a duration of time between capture of the first sensor data of the plurality of sensor data and of the second sensor data of the plurality of sensor data; and

output a control signal based on the duration of time, wherein the control signal instructs an additional ride vehicle to operate in response to the duration of time exceeding a threshold time.

8. The non-transitory computer-readable medium of claim 7, wherein the instructions, when executed by the processor, are configured to cause the processor to:

determine a wait time associated with the queue area based on the duration of time; and

output the control signal based on the wait time.

9. The non-transitory computer-readable medium of claim 8, wherein the instructions, when executed by the processor, are configured to cause the processor to:

receive a first indication of an operation of the amusement park attraction system;

receive a second indication of a guest flow;

receive a third indication of a previously determined wait time of the amusement park attraction system; and

determine the wait time based on the first indication, the second indication, the third indication, or any combination thereof in addition to the duration of time between the capture of the first sensor data and of the second sensor data.

10. The non-transitory computer-readable medium of claim 8, wherein the instructions, when executed by the processor, are configured to cause the processor to:

identify at least one riding group of the respective groups of guests; and

generate instructions to load a ride vehicle based on the identified at least one riding group.

11. The non-transitory computer-readable medium of claim 7, wherein the instructions, when executed by the processor, are configured to cause the processor to:

receive and store initial sensor data of the plurality of sensor data;

receive the first sensor data after receiving and storing the initial sensor data; and

remove the initial sensor data from storage in response to determining the confidence score associated with the comparison between the first sensor data and the initial sensor data exceeds a first threshold value of the one or more threshold values and based on receiving the first sensor data after receiving and storing the initial sensor data.

12. The non-transitory computer-readable medium of claim 7, wherein the instructions, when executed by the processor, are configured to cause the processor to:

receive intermediate sensor data of the plurality of sensor data after receiving the first sensor data;

determine an initial confidence score associated with comparison between the first sensor data of the plurality of sensor data and the intermediate sensor data exceeds an additional threshold value; and

adjust the first sensor data based on the intermediate sensor data in response to determining the initial confidence score exceeds the additional threshold value.

13. The non-transitory computer-readable medium of claim 12, wherein the first sensor data is indicative of one or more initial notable attributes, the intermediate sensor data is indicative of one or more subsequent notable attributes, and the instructions, when executed by the processor, are configured to cause the processor to adjust the first sensor data by changing the one or more initial notable attributes indicated by the first sensor data to the one or more subsequent notable attributes indicated by the intermediate sensor data in response to determining the initial confidence score exceeds the additional threshold value.

14. An attraction system of an amusement park, the attraction system comprising:

a queue area; and

a controller configured to:

receive first sensor data indicative of one or more first notable attributes associated with a first group of guests in a first location of the queue area;

receive second sensor data indicative of one or more second notable attributes associated with a second group of guests in a second location of the queue area;

determine a confidence score based on a comparison between the first sensor data and the second sensor data, wherein the confidence score is associated with a match between the first group of guests and the second group of guests;

compare the confidence score to a threshold value;

determine a wait time based on a duration of time between capture of the first sensor data and capture of the second sensor data in response to determining the confidence score exceeds the threshold value, wherein the duration of time is indicative of an amount of time elapsed during progression from the first location to the second location of the queue area; and

adjust an operating mode of an attraction to have a shorter duration of operation in response to the determined wait time exceeding a threshold time.

15. The attraction system of claim 14, wherein the queue area comprises a first queue line and a second queue line, wherein the first queue line and the second queue line are configured to combine at a merge point, and wherein the second location of the queue area comprises the merge point.

16. The attraction system of claim 14, wherein the queue area comprises a single rider line.

17. The attraction system of claim 16, wherein the controller is configured to:

identify one or more riding groups comprising at least one guest in the first group of guests, the second group of guests, or both based on shared notable attributes;

estimate a number of single rider seats in a ride vehicle of the attraction system based on the identified riding groups; and

generate a wait time estimate for the single rider line based at least in part on the estimated number of single rider seats.

18. The attraction system of claim 17, wherein the one or more riding groups are identified based on the one or more first attributes, the one or more second attributes, profile information for the first group of guests or the second group of guests, and/or common queue entry time stamps.

19. The attraction system of claim 17, wherein the one or more riding groups are identified based on data from outside of the attraction system in the amusement park.

20. The attraction system of claim 17, wherein the one or more riding groups comprise a first riding group identified based on the one or more first attributes or the one or more second attributes comprising an identified matching clothing item unique to the first riding group.

21. The attraction system of claim 15, wherein the controller is configured to adjust a manner in which the second line queue combines with the first line queue at the merge point in response to the determined wait time exceeding the threshold time.