CLAIMS

1. An animal monitoring system that monitors a monitored animal, the animal monitoring system comprising:

a motion detection unit attached to the monitored animal and configured to detect motion information of the monitored animal;

a behavior estimation unit configured to acquire, at a predetermined time interval, the motion information detected by the motion detection unit and estimate a behavior of the monitored animal; and

a power saving control unit configured to start control of reducing power consumption in the motion detection unit when the behavior estimation unit estimates that the behavior of the monitored animal is in an inactive state, and stop the control of reducing the power consumption in the motion detection unit when the behavior estimation unit estimates that the behavior of the monitored animal is in an active state excluding the inactive state.

2. The animal monitoring system according to claim 1, wherein the inactive state is a state in which the monitored animal is stationary.

3. The animal monitoring system according to claim 1 or 2,

wherein the behavior estimation unit estimates the behavior of the monitored animal by applying the motion information indicating the motion detected by the motion

detection unit to a behavior estimation model that receives, as behavior training data, a combination of the motion information indicating the motion of the monitored animal and behavior information indicating the behavior of the monitored animal corresponding to the motion, and outputs the behavior information indicating the behavior of the monitored animal from the motion information of the monitored animal by machine learning using the behavior training data.

4. The animal monitoring system according to any one of claims 1 to 3,

wherein the motion detection unit includes a 3-axis acceleration sensor, a 3-axis gyro sensor, and a 3-axis geomagnetic sensor, and

the motion information includes a voltage value corresponding to acceleration of the monitored animal detected by the 3-axis acceleration sensor, a voltage value corresponding to angular velocity of the monitored animal detected by the 3-axis gyro sensor, and a voltage value corresponding to a direction of the monitored animal detected by the 3-axis geomagnetic sensor.

5. The animal monitoring system according to claim 4, wherein the power saving control unit reduces the power consumption by stopping an operation of the 3-axis acceleration sensor, the 3-axis gyro sensor, or the 3-axis

geomagnetic sensor, and changing a sampling frequency of at least one of the 3-axis acceleration sensor, the 3-axis gyro sensor, and the 3-axis geomagnetic sensor to a predetermined sampling frequency.

6. An animal monitoring server that monitors a monitored animal, the animal monitoring server comprising:

a behavior estimation unit configured to acquire, at a predetermined time interval, motion information of the monitored animal detected by a motion detection unit that is attached to the monitored animal and detects the motion information, and estimate a behavior of the monitored animal; and

a power saving setting estimation unit configured to output, to the motion detection unit, a condition for executing control of reducing power consumption in the motion detection unit when the behavior estimation unit estimates that the behavior of the monitored animal is in an inactive state, and output, to the motion detection unit, a condition for stopping the control of reducing the power consumption in the motion detection unit when the behavior estimation unit estimates that the behavior of the monitored animal is in an active state excluding the inactive state.

7. An animal monitoring method in an animal monitoring system that monitors a monitored animal, the animal

monitoring method comprising:

a behavior estimation step of acquiring, at a predetermined time interval, motion information of the monitored animal detected by a motion detection unit that is attached to the monitored animal and detects the motion information, and estimating a behavior of the monitored animal; and

a power saving control step of starting control of reducing power consumption in the motion detection unit when the behavior estimation step estimates that the behavior of the monitored animal is in an inactive state, and stopping the control of reducing the power consumption in the motion detection unit when the behavior estimation step estimates that the behavior of the monitored animal is in an active state excluding the inactive state.

8. An animal monitoring program for an animal monitoring system that monitors a monitored animal, the animal monitoring program causing a computer to achieve:

a behavior estimation function to acquire, at a predetermined time interval, motion information of the monitored animal detected by a motion detection unit that is attached to the monitored animal and detects the motion information, and estimate a behavior of the monitored animal; and

a power saving control function to start control of

reducing power consumption in the motion detection unit when the behavior estimation function estimates that the behavior of the monitored animal is in an inactive state, and stop the control of reducing the power consumption in the motion detection unit when the behavior estimation function estimates that the behavior of the monitored animal is in an active state excluding the inactive state.