Intellectual environment recognition for animal harm by monkeys

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全体要旨（英文）

In this research, We predict behavior of monkeys using intellectual environment recognition for animal harm measures by monkeys. First we solved several problems of measuring monkeys' locations in mountainous areas. Next we put transmitters on monkeys and collected their appearance data for two years. And we made an experiment and acquired 6 kinds of research results.

・Simplifying calibration of receivers for the radio measurement system in mountainous areas.

・Improving accuracy of locating monkeys by measuring radio intensity from many points in mountainous areas.

・Modeling methods of predicting monkeys' routes in mountainous areas.

・Internet delivery system for informing of monkey' appearance.

・Analyzing causal relationship between crop condition with the average temperature in winter and monkeys' appearance index.

・Analyzing patterns of monkeys' appearance with using machine learning and improving precision on predicting monkeys' appearance.

With monkeys wear transmitters, we have collected trending data of monkeys' appearance by using receivers of the system installed around these mountainous areas for about two years. The average rate of radio communication availability is 97.22%, and approximately 25 million signals of monkeys have been received. The SVM achieved approximately 31% accuracy by combining two learning methods. It was confirmed that the system of predicting appearance of monkeys was effective in certain conditions.