Development of artificial intelligence systems for Diagnosing skin disease in dogs

Mr. Narinthon Yangngam Mr. Purinut Yenman
Advisor : Ekkachai Wattanachail
Princess Chulabhorn Science High School Buriram

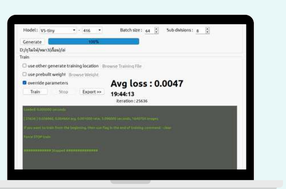
PROBLEM

OBJECTIVE

1) Developing an artificial intelligence system for diagnosing skin diseases in dogs
2) Providing information and knowledge to dog owners
3) Increase access to services and reduced costs
4) Reducing the workload of medical personnel

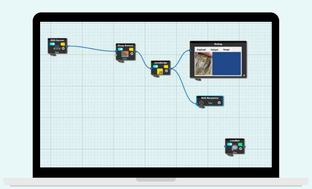
FRAMEWORK

1) collect data

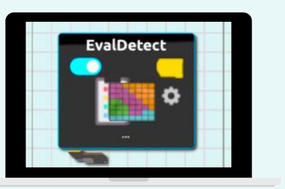


2) train AI

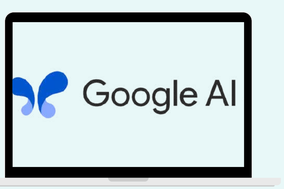
3) make Line bot



4) Connect Line Bot with Cira core



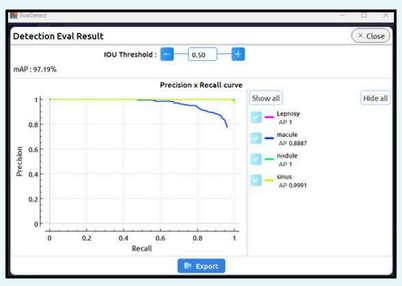
5) Test the accuracy of the AI



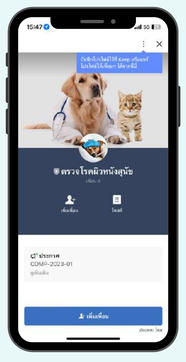
6) Connect API Gemini with line bot

Flowchart

FINDING

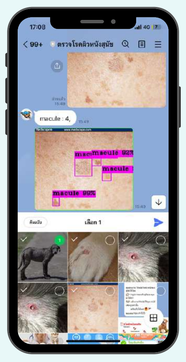


From the operation, we checked the accuracy of the AI. The results as shown in the graph are an mAP percentage of more than 90% on average. When the IOT Threshold value is between 0.50, it is considered a good possibility. There is an accurate inspection.



1) add line

2) Choose various functions



3) send image

4) Get diagnosed

line bot can be used That is, when a picture is sent. Then we will respond to any dog skin diseases that we encounter. It also has additional features: Can tell you information about skin diseases found in dogs. Just type a question in line bot.

CONCLUSION

The conclusion reveals that the developed artificial intelligence system has a high accuracy in diagnosing skin diseases in dogs, with an average mAP of over 90%, which is highly satisfactory. Additionally, the LINE Bot integrated with the AI allows dog owners to easily and conveniently access diagnostic services, providing them with information and preliminary care recommendations. This leads to benefits in terms of rapid and accurate diagnosis, cost reduction, and a decreased workload for veterinarians.

Therefore, this project serves as a valuable tool to assist dog owners and veterinarians in effectively managing skin disease issues in dogs. It marks an important step in applying artificial intelligence technology in the veterinary field, aiming to enhance the quality of life for dogs and promote the overall health of pets in the future.

REFERENCES

P. Wongmalai. (2023). Development of a canine skin disease diagnosis system using deep learning techniques. Master's thesis, Department of Computer Engineering,Vishnu Institute of Technology, Andhra Pradesh, India.

N. Srisuk. (2019). Application of Convolutional Neural Network for canine skin disease classification. Research report, Department of Computer Science, Faculty of Science, Chiang Mai University, Thailand.

P. Wongsawan. (2018). Development of a pet skin disease diagnosis support system using image analysis and deep learning techniques. In Proceedings of the 15th National Conference on Engineering and Technology, Thailand.

K. Inprasert. (2017). Application of artificial intelligence in animal disease diagnosis. Journal of Veterinary Science, Vol. 40, No. 2.