

Understanding the Web Interface of Recommendation-Driven Decision-Aid

This tutorial will guide you through the key components of the interface.

1. **Image index:** The index of the current image, valued from 0 to 8;
2. **Dermoscopic image:** The dermoscopic image that we are evaluating;
3. **Decision aid's recommendation:** The recommendation for the diagnosis of the current image, given by the decision-aid. The recommendation is one of seven possible diagnoses (AKIEC, BCC, MEL, NV, BKL, DF, VASC);
4. **Evidence for:** The evidence that support the decision-aid's recommendation;
5. **Evidence against:** The evidence that refute the decision-aid's recommendation;
6. **Response - Assigning the likelihood:** Use the seven sliders to answer the task's question. You will need to assign the likelihood for seven possible diagnoses and ensure that the total likelihood is 100.

How to Read the Evidence

The evidence comprise of two components, including (A) weight of evidence (on the left side) and (B) image segmentations (on the right side), explained as follows.

- **(A) weight of evidence:** We have the weight of evidence (WoE) for each feature being presented as horizontal bar charts. A positive weight of evidence (blue colour) indicates that the feature's value supports the decision-aid's recommendation according to the AI model used in the decision-aid. A negative weight of evidence (red colour) indicates that the feature's value refutes the decision-aid's recommendation according to the AI model used in the decision-aid. The weight of evidence is also measured as how much each feature contributes to the recommendation based on the horizontal axis. Note that this decision-aid can sometimes find wrong evidence or give it the wrong weight.
- **(B) image evidence:** Each feature is represented as evidence on the test image that highlight areas on the skin. We also provide five other example images in the training set with evidence that present the similar feature. Based on these evidence, you can identify the dermoscopic feature being represented.

EvaSkin - Practice Task - Recommendation-Driven

We will give you an example of the task. Please use the information provided to you and assign the likelihood for the seven possible diagnoses.

Image Index0

Dermoscopic Image

Decision-aid's recommendationMelanoma (MEL)(3)

(1)(2)

(4)(B)

Evidence For MEL

Vascular Structures

Irregular Pigmentation

Irregular Dots and Globules

Whitish Veils

Irregular Pigmentation

Dark Irregular Pigmentation

Lines

(A)

Test image

Train images

Evidence Against MEL

(5)

Assign the likelihood for each option, where 100 is the most likely, 0 is the least likely. Please total the choices to 100.

(6)

Current total likelihood: 0

Actinic keratoses/intraepithelial carcinoma (AKIEC)

Basal cell carcinoma (BCC)

Benign keratosis-like lesions (BKL)

Dermatofibroma (DF)

Melanoma (MEL)

Melanocytic nevi (NV)

Vascular lesions (VASC)

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