.1: **Inputs**

.2: *patches* (set of arrays): a set of N images from a patient

.3: *model* (computational graph): trained CNN

.4:

.5: **Outputs**

.6: *distribution* (dictionary): a mapping of diagnostic classes to probabilities

.7:

.8: **procedure** PREDICTION(*patches*, *model*)

.9: predictions ← []

10: **for** patch **in** *patches* **do**

11: softmax\_output ← model(patch)

12: **if** argmax(softmax\_output) == "nondiagnostic" **then**

13: **continue**

14: **else**

15: **append** softmax\_output **to** predictions

16: **return** predictions

17:

18: **procedure** RENORMALIZE(predictions)

19: summed\_dist ← sum(predictions)

20: **for** class **in** predictions **do**

21: predictions.class ← sum(predictions.class) / summed\_dist

22: **return** predictions

23:

24: **procedure** DIAGNOSIS(*patches*, *model*)

25: renorm\_prediction ← RENORMALIZE(PREDICTION (*patches, model*))

26: **if** sum(renorm\_prediction.normal) > 0.9 **then**

27: **return** renorm\_prediction

28: **else**

29: renorm\_prediction.normal ← 0

30: **return** RENORMALIZE(renorm\_prediction)

31:

32: **return** DIAGNOSIS(patches, model)