

MedCLIP Zero-Shot Disease Classification
6-class setting: CheXpert-5 + Others

Tag / image variant : raw
Preds CSV : D:\MedVLMBench\phase1\results\medclip_chexpert_sanity_raw_preds.csv

Classes:

- CheXpert-5: Atelectasis, Cardiomegaly, Consolidation, Edema, Pleural Effusion
- Others : any chexpert_label outside these five

How predictions are made:

- MedCLIP outputs probabilities only for the 5 CheXpert diseases.
- We take argmax over these 5 scores to get the predicted class.
- MedCLIP never predicts 'Others' (this is by design).

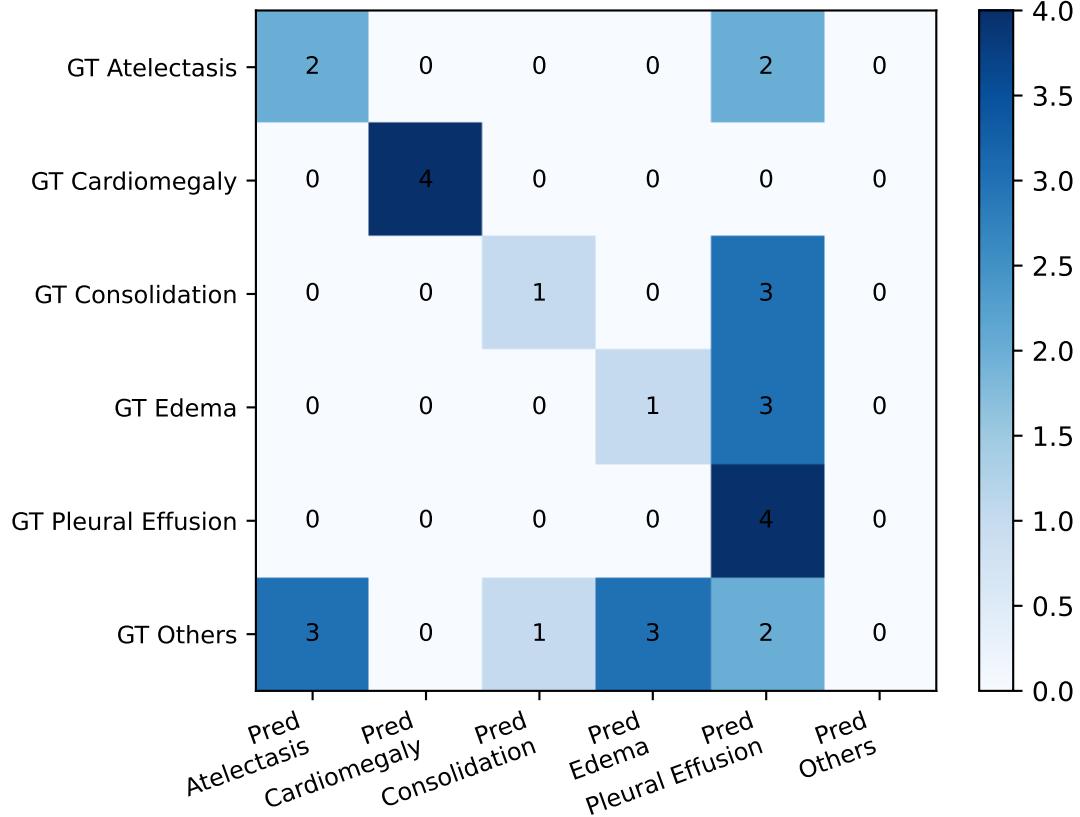
Interpretation:

- If GT = Others, any prediction must be one of the 5 diseases.
This reveals how often MedCLIP mis-classifies non-CheXpert pathologies into the limited disease set.

Overall performance on this subset:

- Samples used : 29
- Overall accuracy: 0.414
- Macro F1 : 0.412

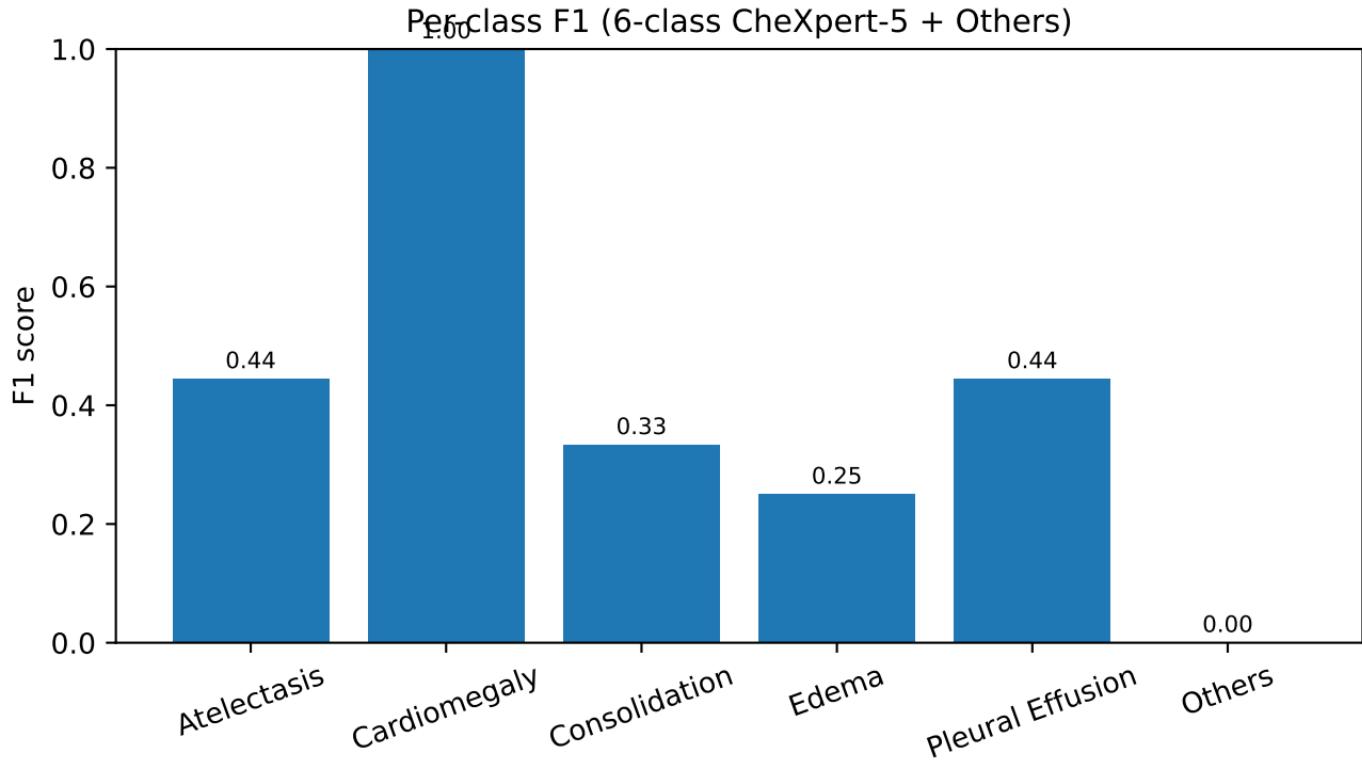
6-class confusion matrix (rows = GT, cols = Pred)



Confusion matrix for the 6-class task (CheXpert-5 + Others).

Diagonal cells show correct predictions. Off-diagonal cells show confusions between specific classes.

In particular, the GT 'Others' row highlights how non-CheXpert conditions are forced into the 5 disease classes.



$F1 = 2 * (\text{Precision} * \text{Recall}) / (\text{Precision} + \text{Recall})$.

For 'Others', F1 shows how well MedCLIP avoids over-assigning non-CheXpert pathologies to the 5 target diseases.

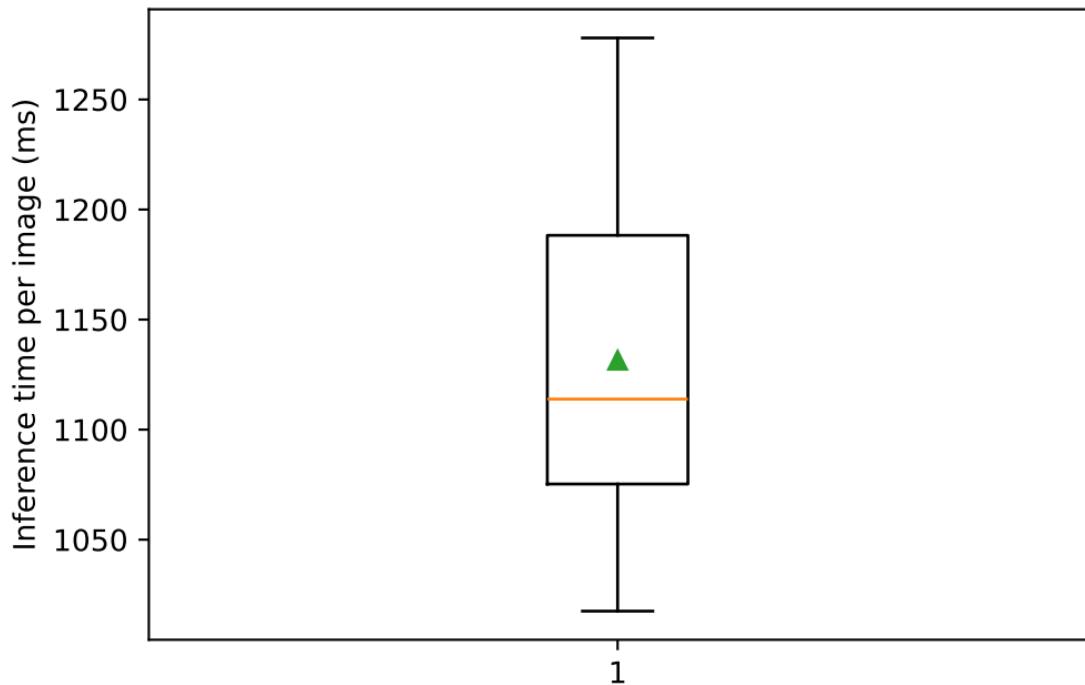
Per-class metrics (6-class CheXpert-5 + Others)

| Class | Support | Accuracy | Precision | Recall | F1 |
|------------------|---------|----------|-----------|--------|-------|
| Atelectasis | 4 | 0.500 | 0.400 | 0.500 | 0.444 |
| Cardiomegaly | 4 | 1.000 | 1.000 | 1.000 | 1.000 |
| Consolidation | 4 | 0.250 | 0.500 | 0.250 | 0.333 |
| Edema | 4 | 0.250 | 0.250 | 0.250 | 0.250 |
| Pleural Effusion | 4 | 1.000 | 0.286 | 1.000 | 0.444 |
| Others | 9 | 0.000 | 0.000 | 0.000 | 0.000 |

Support = number of ground-truth samples for each class.

Accuracy here is class-wise: fraction of samples for that class that are correctly predicted.

MedCLIP per-image inference latency (same CSV)



Boxplot summarizing median, interquartile range, mean and outliers for per-image inference time. Useful when comparing different image variants (raw vs CLAHE vs Gauss+CLAHE).