

Supplementary Information

Supplementary Table 1: **Sex-disaggregated comparison of all models** for prediction of LVF (AUROC, AP). The AUROC, AP scores are shown for the prediction of the moderate/severe impaired (positive) vs. normal/mild impaired groups, the AUROC (ovr) score shows the averaged one-versus-all AUROC for all 4 strata for the male sex and for 3 strata (moderate, mild and normal) for the female sex, since none of the female patients in the test set had a severely impaired LVF. The AUROCs and AP metrics show the bootstrapped mean (and 95% confidence interval) on the test set.

Model	Sex	AUROC $\uparrow$	AUROC(ovr) $\uparrow$	AP
12-lead	Male	0.859 [0.848-0.869]	0.746 [0.740-0.752]	0.473 [0.449-0.501]
12-lead	Female	0.736 [0.723-0.750]	0.833 [0.824-0.841]	0.814 [0.802-0.826]
12-lead (Lead I)	Male	0.786 [0.773-0.799]	0.699 [0.692-0.706]	0.301 [0.279-0.323]
12-lead (Lead I)	Female	0.642 [0.626-0.658]	0.682 [0.666-0.696]	0.722 [0.705-0.738]
1-lead (pretrained)	Male	0.883 [0.879-0.886]	0.703 [0.700-0.706]	0.548 [0.536-0.559]
1-lead (pretrained)	Female	0.636 [0.627-0.644]	0.513 [0.504-0.522]	0.530 [0.518-0.543]
1-lead	Male	0.877 [0.873-0.880]	0.704 [0.702-0.707]	0.473 [0.462-0.483]
1-lead	Female	0.626 [0.618-0.633]	0.709 [0.701-0.716]	0.522 [0.511-0.533]