Supplementary Material: TabMixer: Noninvasive Estimation of the Mean Pulmonary Artery Pressure via Imaging and Tabular Data Mixing

Table 1. Mean and standard deviation of ground truth mPAP and 29 tabular features used in this study. The following abbreviations are used: left ventricular (lv), right ventricular (rv), end-diastolic volume (edv), end-systolic volume (esv), pulmonary artery (pa), ascending aorta (aa), cardiac output (co), ejection fraction (ef).

Feature	Mean	Std
mPAP $[mmHg]$	40.55	14.37
weight $[kg]$	78.63	19.23
heart_rate $[BPM]$	72.67	14.96
who_functional_class	2.97	0.46
reveal_score	7.74	1.93
reveal_score_lite	7.25	1.19
compera_score	2.85	0.82
ethnicity_Indian	0.02	0.15
lvedv $[mL]$	102.98	35.95
lvedv_index $[mL/m^2]$	54.88	17.61
lvesv $[mL]$	34.92	19.49
lvesv_index $[mL/m^2]$	18.58	10.01
lvsv $[mL]$	68.15	24.53
lvsv_index $[mL/m^2]$	36.35	12.25
lvco $[L/min]$	4.82	1.67
lvef $[\%]$	66.70	11.25
rvedv $[mL]$	149.42	65.53
rvesv $[mL]$	88.32	50.79
rvsv $[mL]$	60.75	27.57
rvedv_index $[mL/m^2]$	79.95	34.17
rvesv_index $[mL/m^2]$	47.23	26.72
rvsv_index $[mL/m^2]$	32.52	14.46
rvef $[\%]$	42.79	14.01
rv_diastolic_mass_index $[g/m^2]$	27.10	18.83
pa_relative_area_change $[\%]$	12.15	8.42
diastolic_pa_area $[mm^2]$	817.86	270.94
systolic_pa_area $[mm^2]$	913.02	299.13
pa_forward_flow_per_min $[L/min]$	5.33	2.22
pa_backward_flow_per_min $[L/min]$	0.88	0.94
aa_forward_flow_per_min $[L/min]$	5.45	1.71

Table 2. The performance of imaging (I.) and/or tabular (T.) methods. The imaging methods were trained on the Short-Axis plane. We **highlight** best and <u>underline</u> second MAE [mmHg], RMSE [mmHg], MAPE [%]. We indicate the statistically significant difference (two-tailed paired t-test p-value < 0.01) with TabMixer over the baseline on both 4CH and SA planes with *.

Method	I.	T.	MAE	RMSE	MAPE
LR	✗	✓	8.50 ± 7.00	11.01	23.35 ± 22.15
MLP	✗	✓	8.25 ± 7.07	10.87	22.51 ± 22.64
Trompt	✗	✓	8.12 ± 6.83	10.61	22.38 ± 23.27
XGBoost	✗	✓	7.82 ± 6.40	10.11	21.84 ± 24.02
ResNet$_{tab}$	✗	✓	7.65 ± 6.38	9.96	21.10 ± 21.28
FT-Transformer	✗	✓	7.62 ± 6.52	10.03	<u>20.89 ± 21.03</u>
GBDT	✗	✓	<u>7.58 ± 6.21</u>	<u>9.78</u>	**20.85 ± 20.63**
RF	✗	✓	**7.47 ± 6.05**	**9.61**	20.97 ± 21.86
			PH Short-Axis		
Video Swin	✓	✗	11.65 ± 7.93	14.10	34.82 ± 35.57
+ Concat	✓	✓	10.09 ± 7.11	12.34	29.99 ± 30.59
+ FiLM	✓	✓	<u>7.98 ± 6.70</u>	10.42	<u>22.62 ± 23.66</u>
+ DAFT	✓	✓	11.88 ± 8.15	14.41	36.64 ± 39.28
+ TabAttention	✓	✓	8.02 ± 6.59	<u>10.38</u>	23.07 ± 24.43
+ **TabMixer***	✓	✓	**7.86 ± 6.53**	**10.22**	**22.25 ± 22.83**
MLP-3D	✓	✗	11.84 ± 7.91	14.24	35.72 ± 36.12
+ Concat	✓	✓	9.59 ± 7.17	11.97	27.87 ± 28.16
+ FiLM	✓	✓	<u>8.13 ± 6.91</u>	10.67	<u>22.62 ± 23.28</u>
+ DAFT	✓	✓	11.41 ± 7.81	13.83	33.48 ± 32.93
+ TabAttention	✓	✓	8.29 ± 6.63	<u>10.62</u>	24.55 ± 25.61
+ **TabMixer***	✓	✓	**7.80 ± 6.57**	**10.20**	**22.02 ± 22.72**
ResNet$_{DAFT}$	✓	✗	12.09 ± 8.07	14.53	35.48 ± 34.94
+ Concat	✓	✓	10.50 ± 7.35	12.82	31.97 ± 32.80
+ FiLM	✓	✓	<u>8.24 ± 6.81</u>	<u>10.69</u>	23.38 ± 24.50
+ DAFT	✓	✓	8.25 ± 7.25	10.98	<u>22.06 ± 22.03</u>
+ TabAttention	✓	✓	8.54 ± 7.24	11.19	23.65 ± 23.24
+ **TabMixer***	✓	✓	**7.82 ± 6.58**	**10.22**	**22.04 ± 23.46**
ResNet-18	✓	✗	7.85 ± 6.54	10.21	21.71 ± 25.27
+ Concat	✓	✓	**7.22 ± 5.96**	**9.36**	**19.92 ± 20.73**
+ FiLM	✓	✓	9.05 ± 7.31	11.63	24.58 ± 22.36
+ DAFT	✓	✓	8.93 ± 7.29	11.53	25.43 ± 24.57
+ TabAttention	✓	✓	7.92 ± 6.17	10.03	22.77 ± 24.24
+ **TabMixer**	✓	✓	<u>7.56 ± 6.45</u>	<u>9.94</u>	21.57 ± 23.11
I3D	✓	✗	7.21 ± 6.01	9.39	<u>19.11 ± 19.62</u>
+ Concat	✓	✓	7.56 ± 6.11	9.72	20.76 ± 22.55
+ FiLM	✓	✓	8.53 ± 7.12	11.11	22.48 ± 21.05
+ DAFT	✓	✓	<u>7.18 ± 5.82</u>	<u>9.25</u>	19.21 ± 20.76
+ TabAttention	✓	✓	7.34 ± 6.02	9.49	21.34 ± 27.32
+ **TabMixer***	✓	✓	**6.66 ± 5.51**	**8.64**	**18.90 ± 20.83**