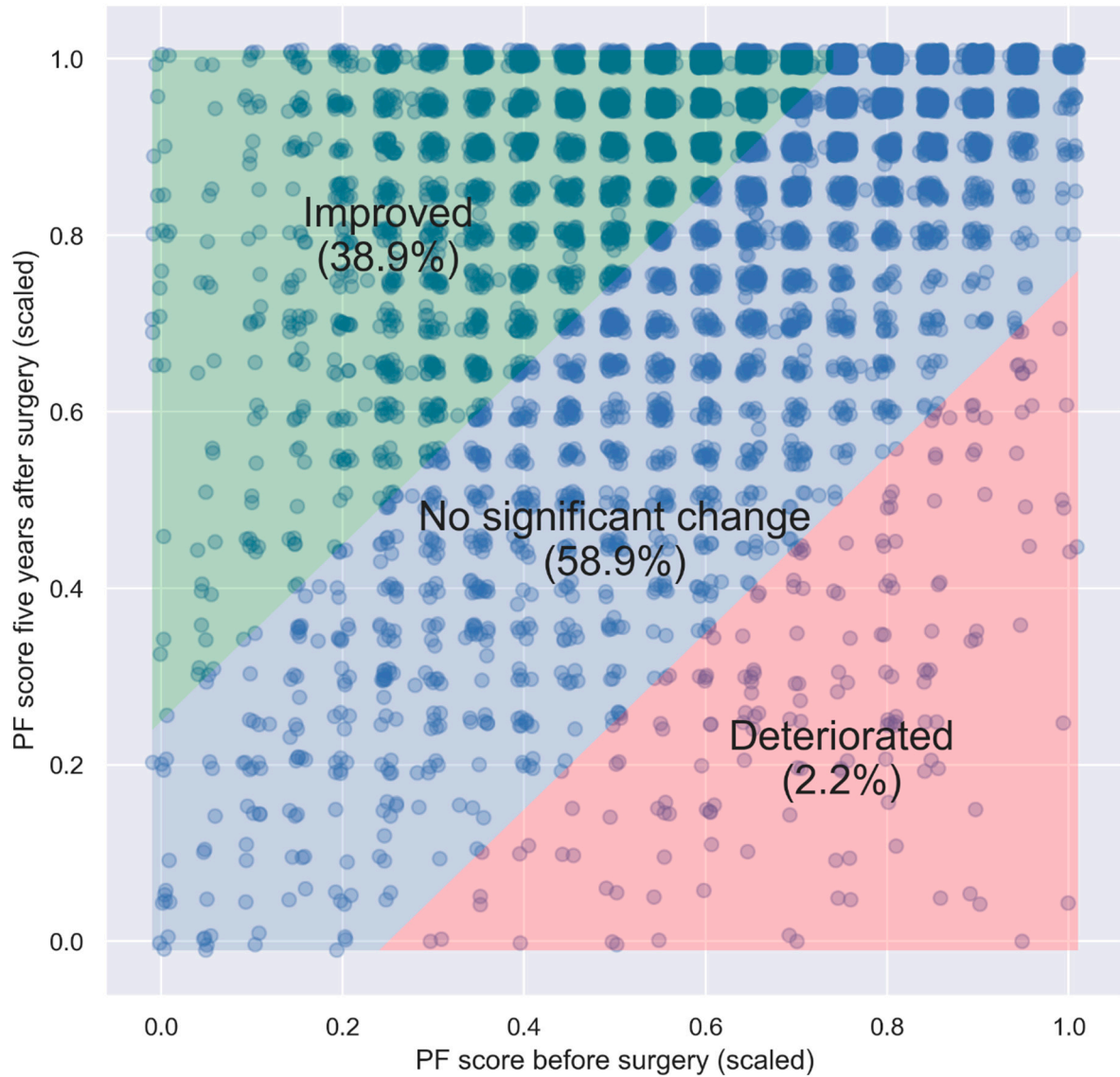**Figure S1.** Physical functioning (PF) scores before and after bariatric surgery of 6687 patients used in the study. The dots in the figure are jittered to avoid heavy overlap of patients with the same coordinates.
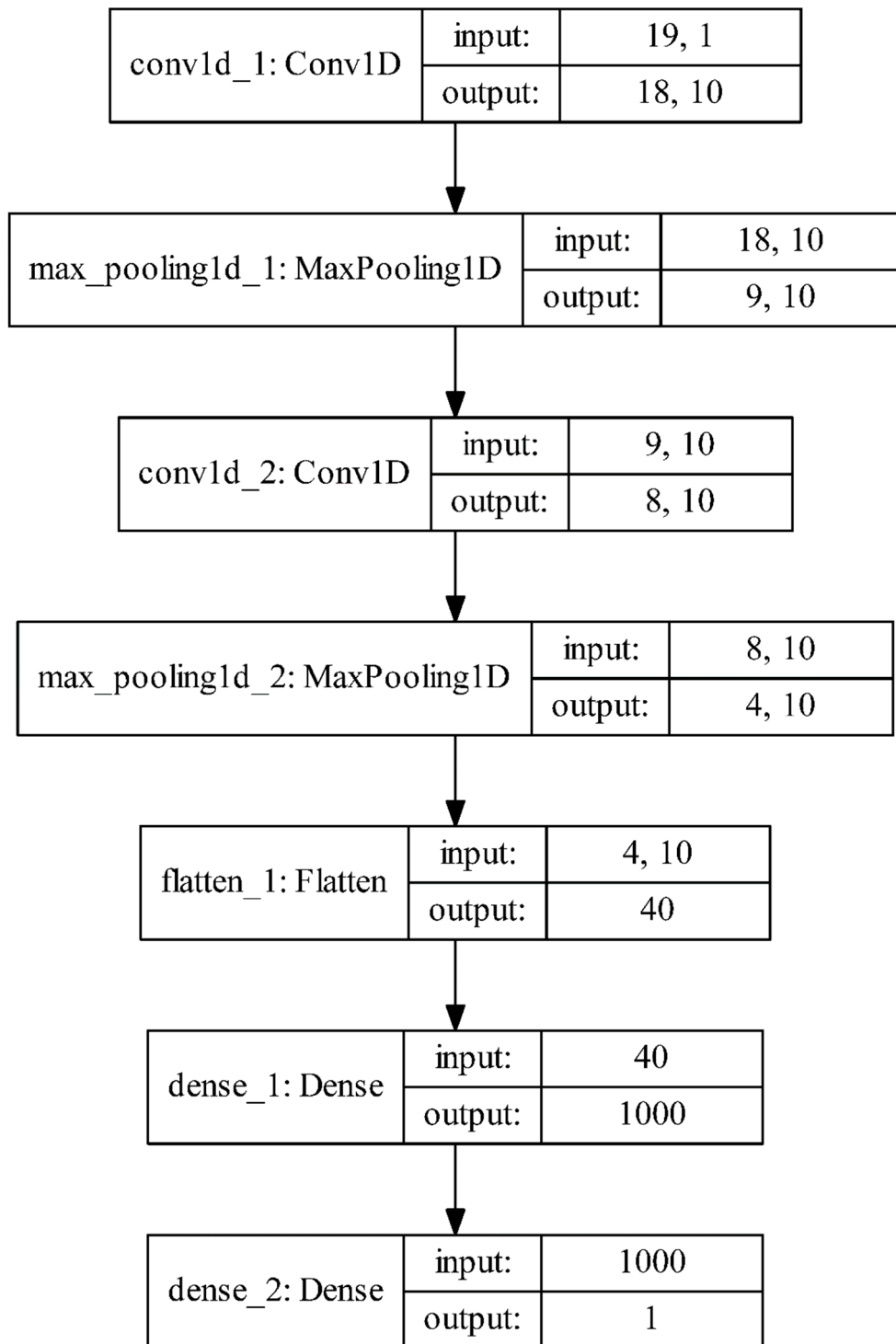
conv1d_1: Conv1D	input:	19, 1
	output:	18, 10

max_pooling1d_1: MaxPooling1D	input:	18, 10
	output:	9, 10

conv1d_2: Conv1D	input:	9, 10
	output:	8, 10

max_pooling1d_2: MaxPooling1D	input:	8, 10
	output:	4, 10

flatten_1: Flatten	input:	4, 10
	output:	40

dense_1: Dense	input:	40
	output:	1000

dense_2: Dense	input:	1000
	output:	1

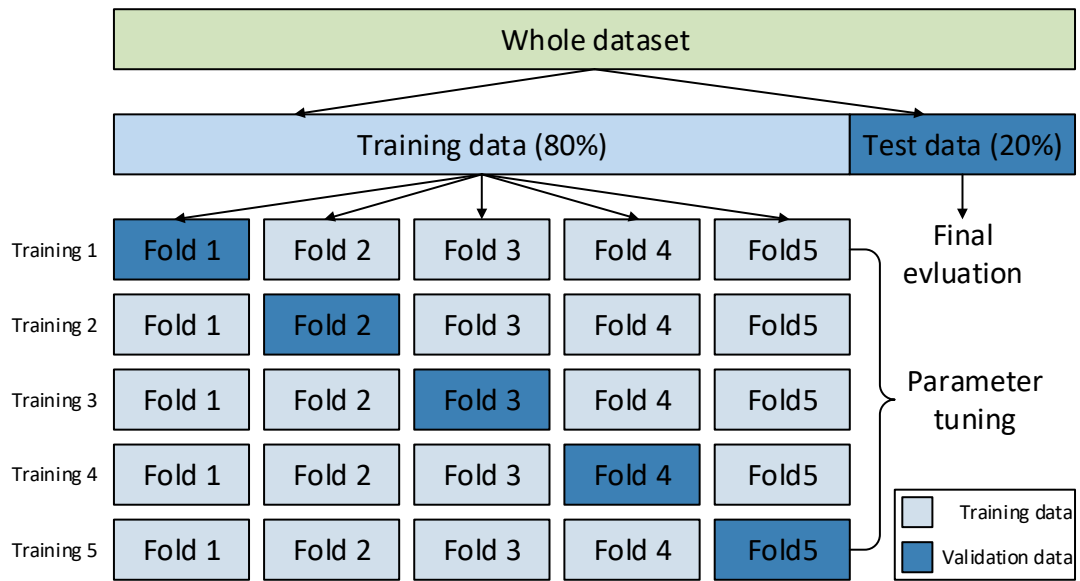**Figure S2.** Structure of the conventional neural network (CNN) model used in the study.

Figure S3. Process of training, validation and evaluation.