

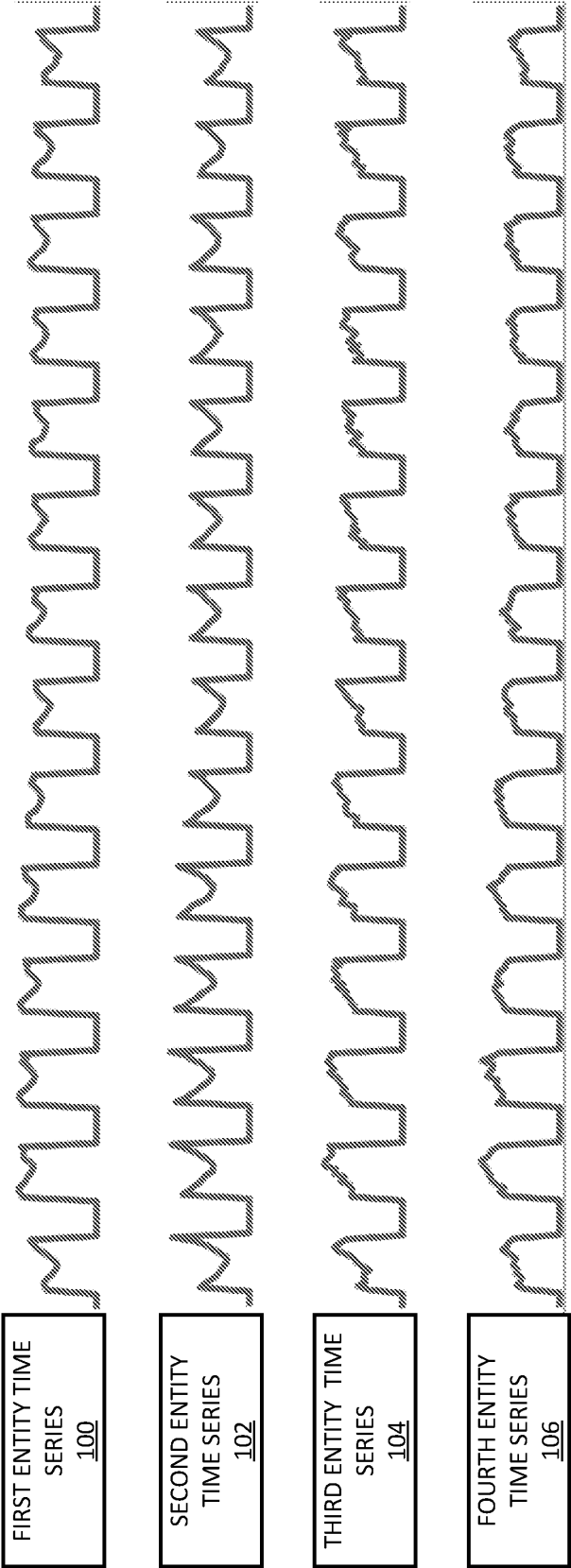


FIG. 1

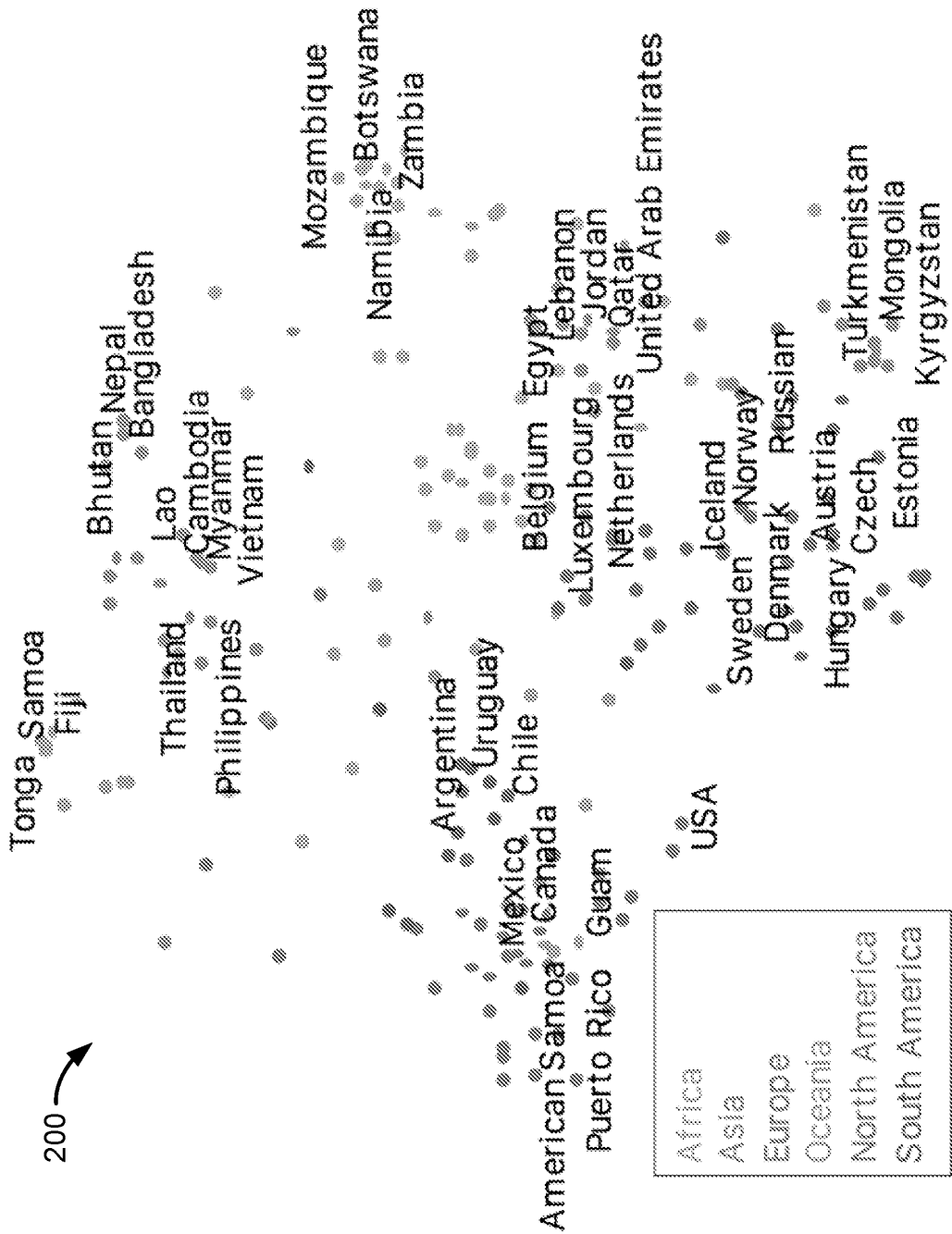


FIG. 2

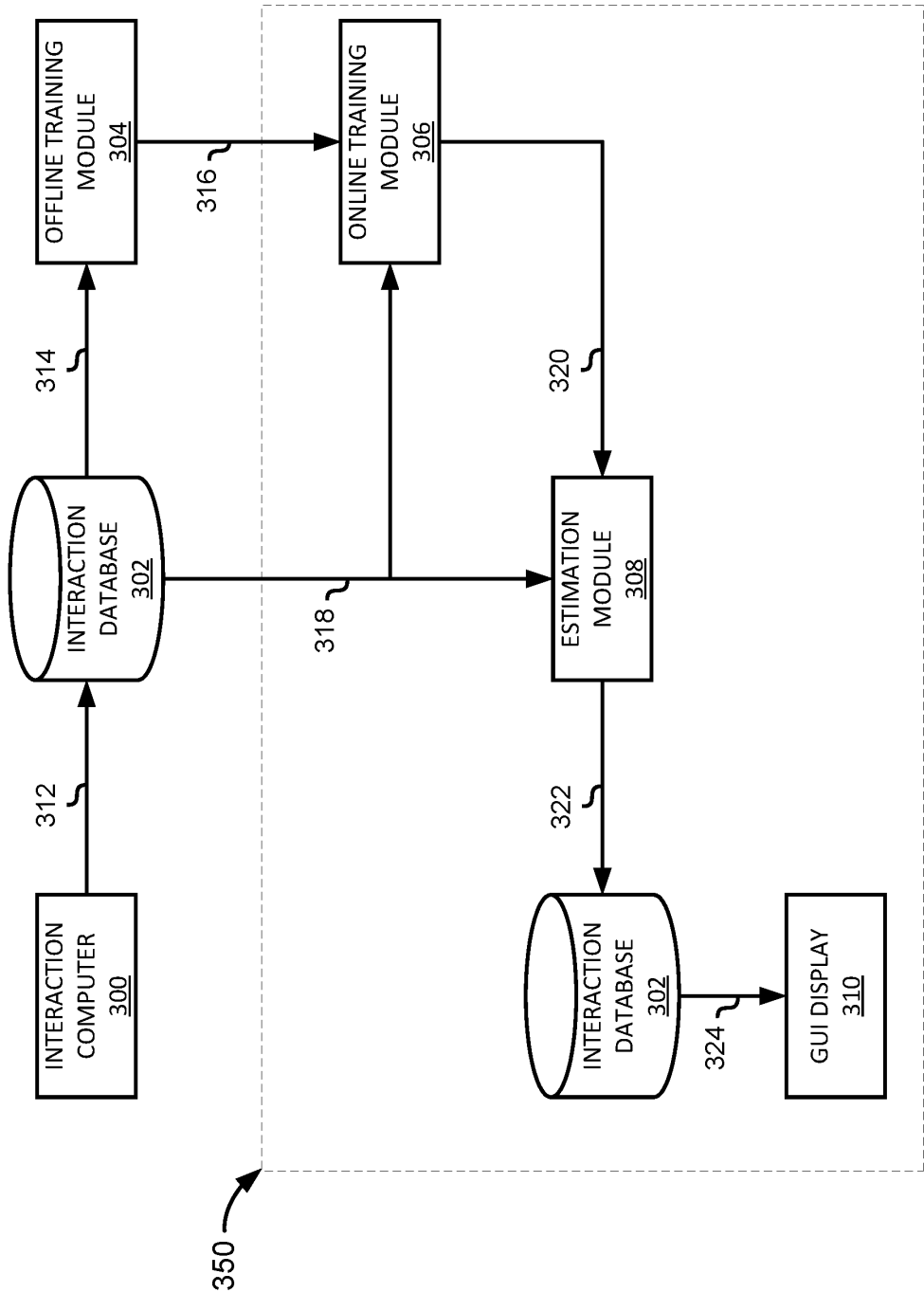


FIG. 3

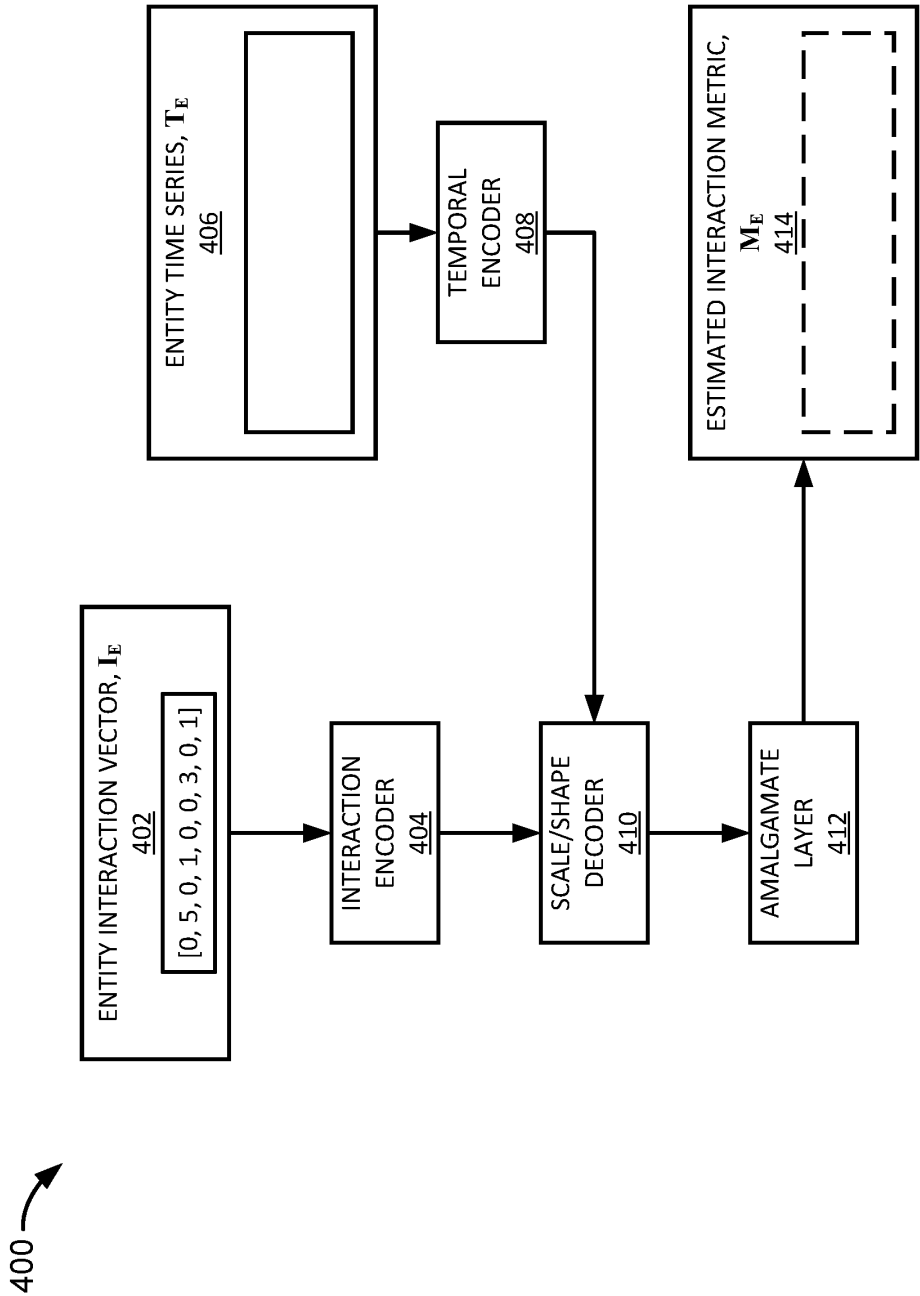


FIG. 4

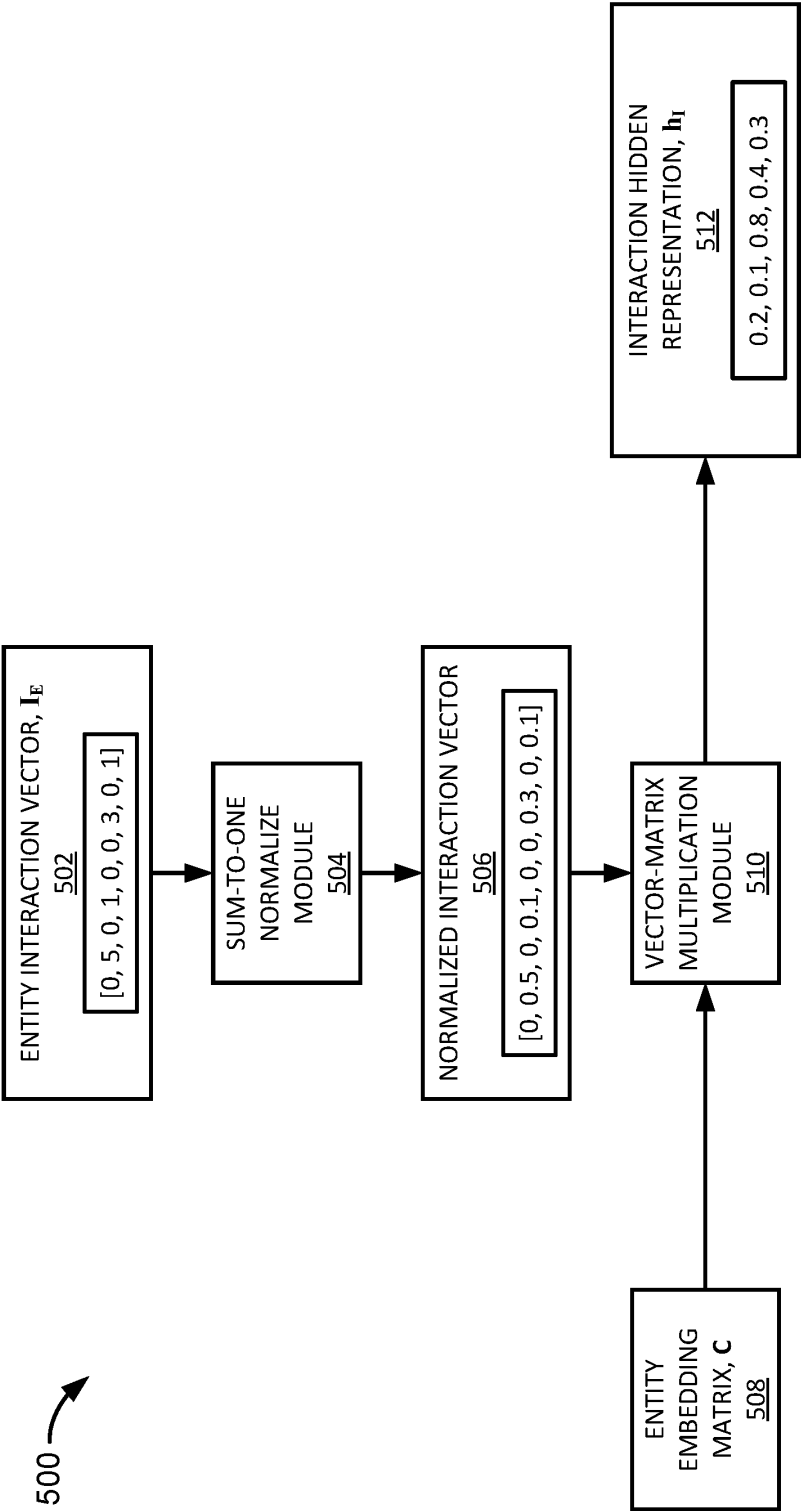
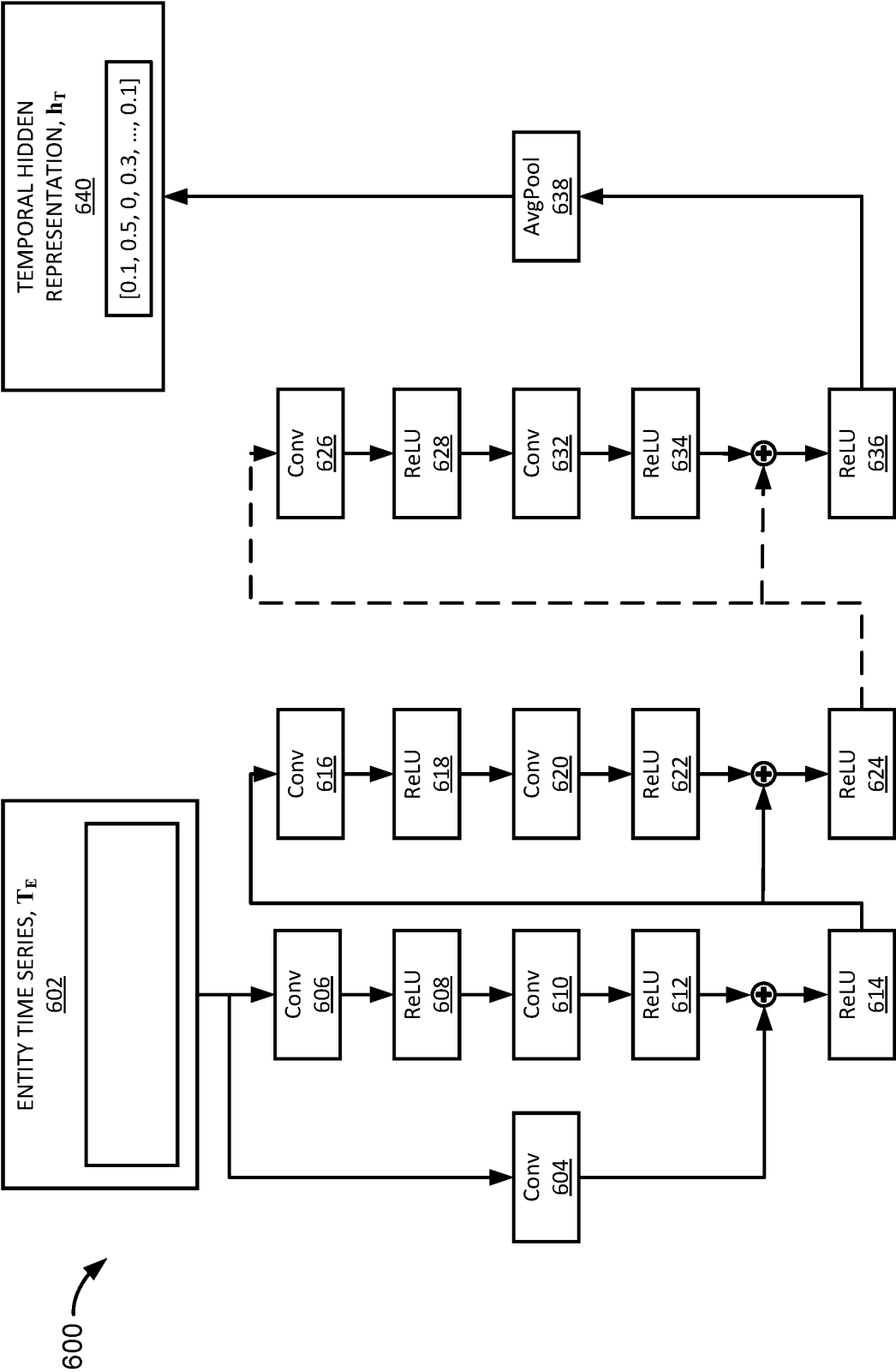


FIG. 5



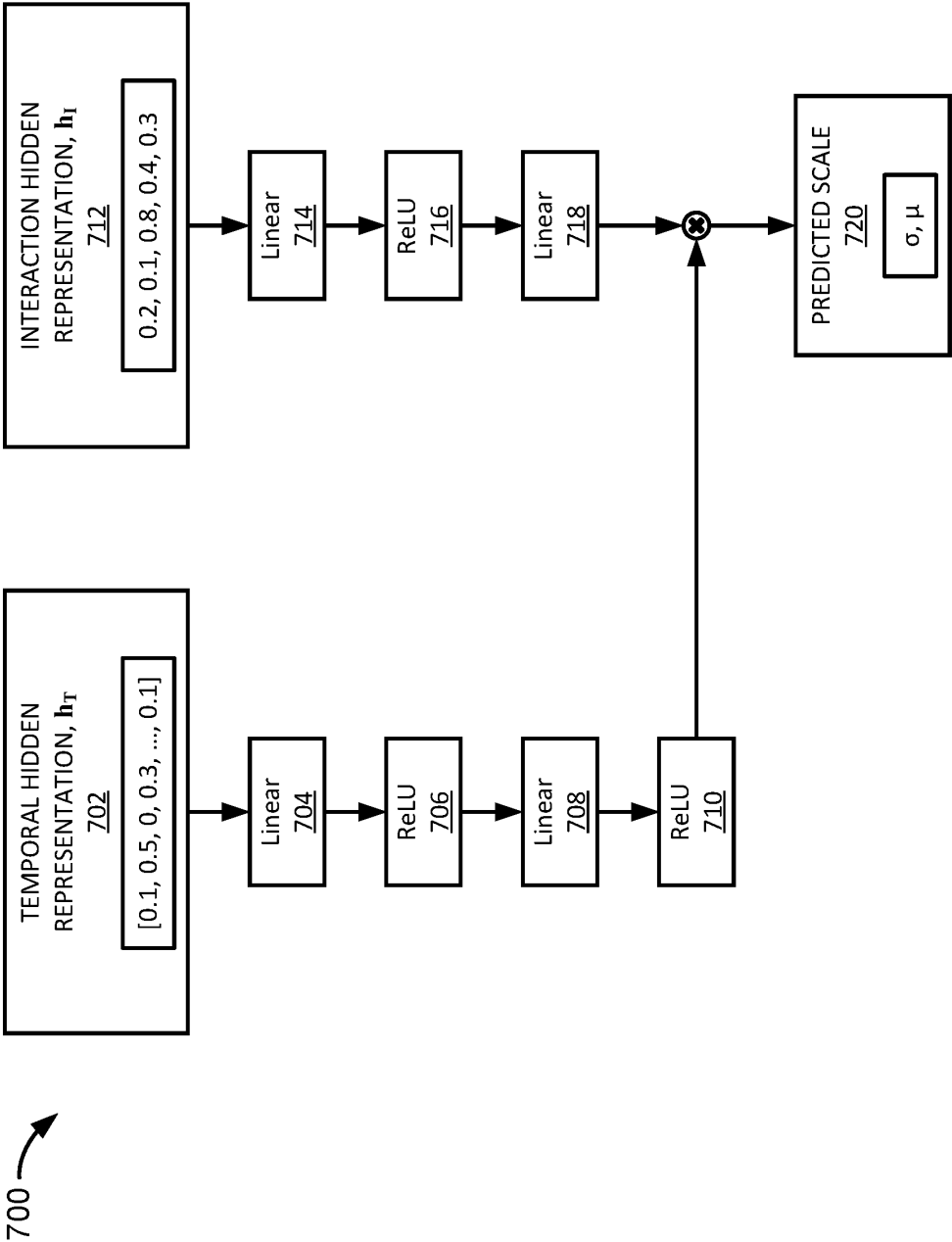


FIG. 7

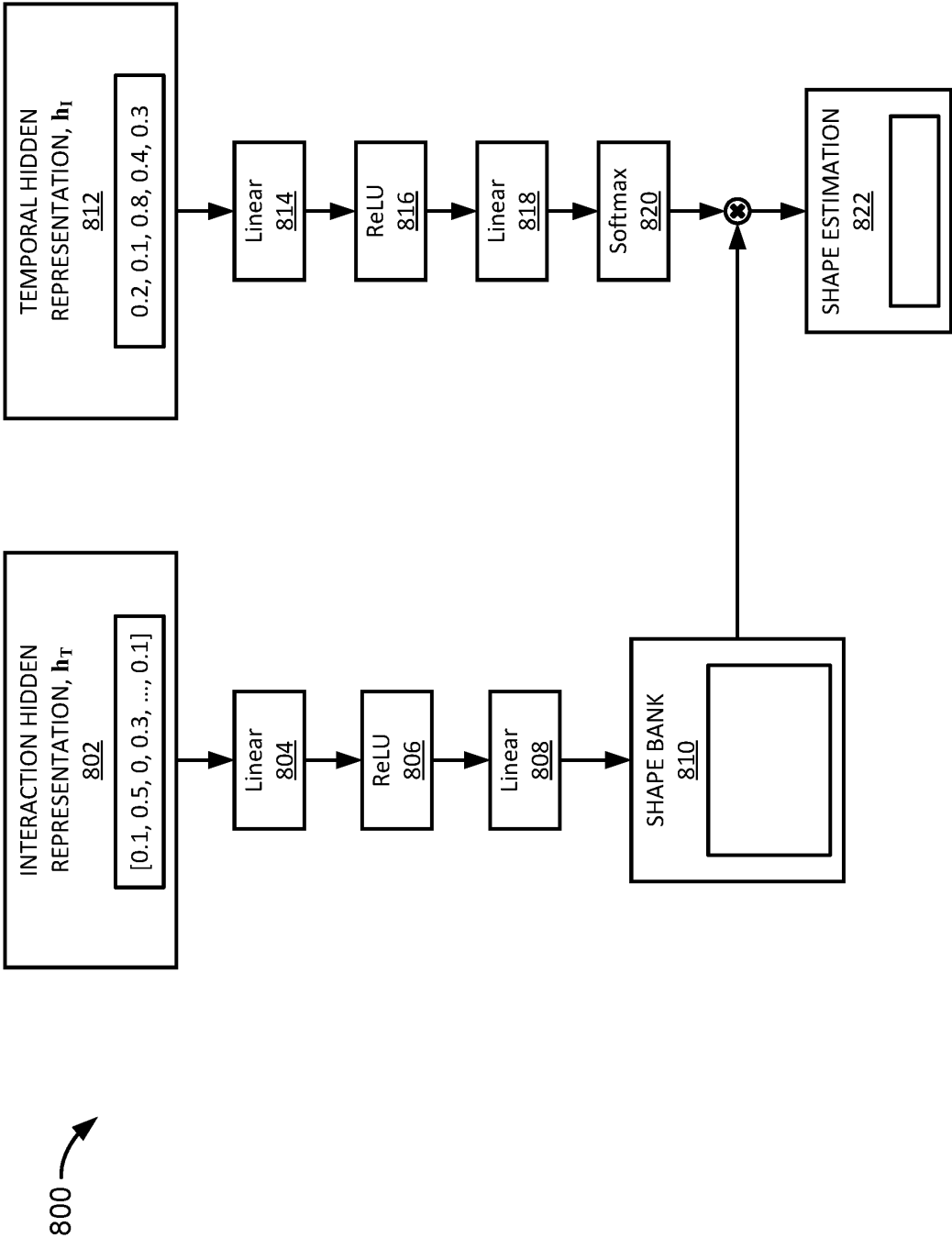


FIG. 8

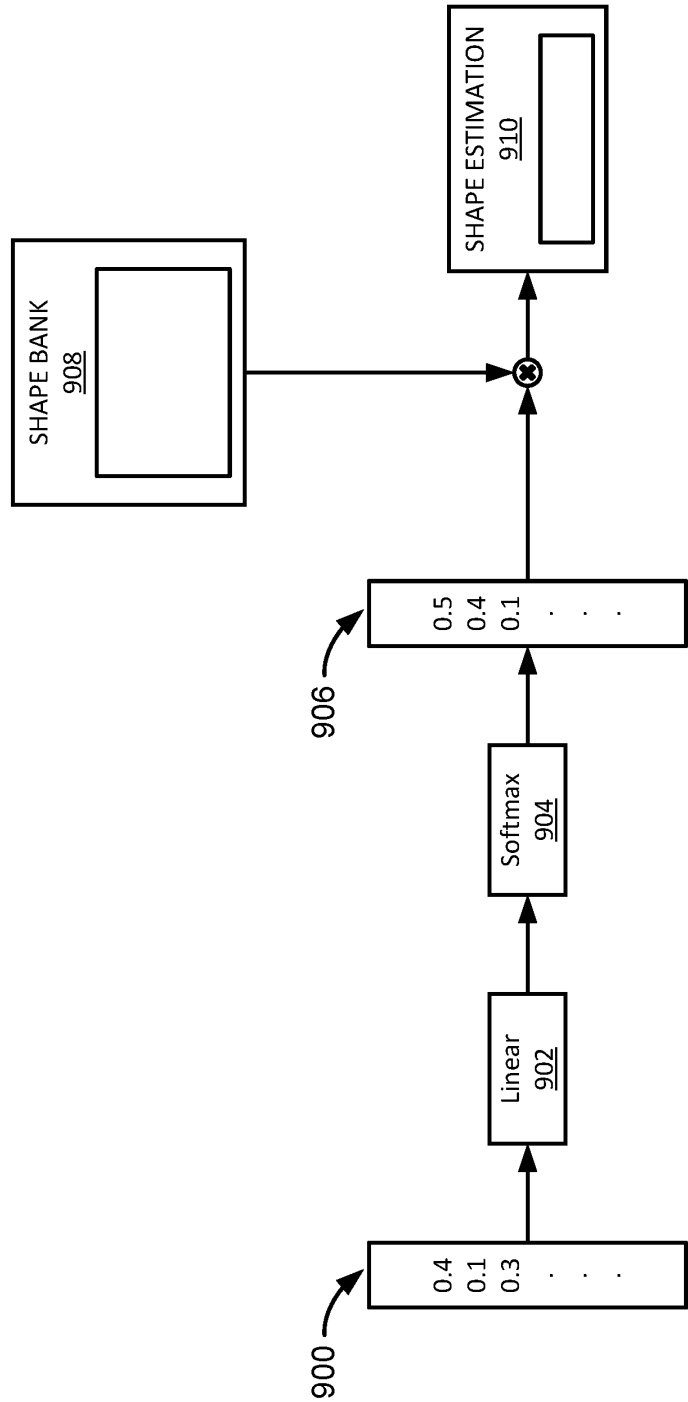


FIG. 9

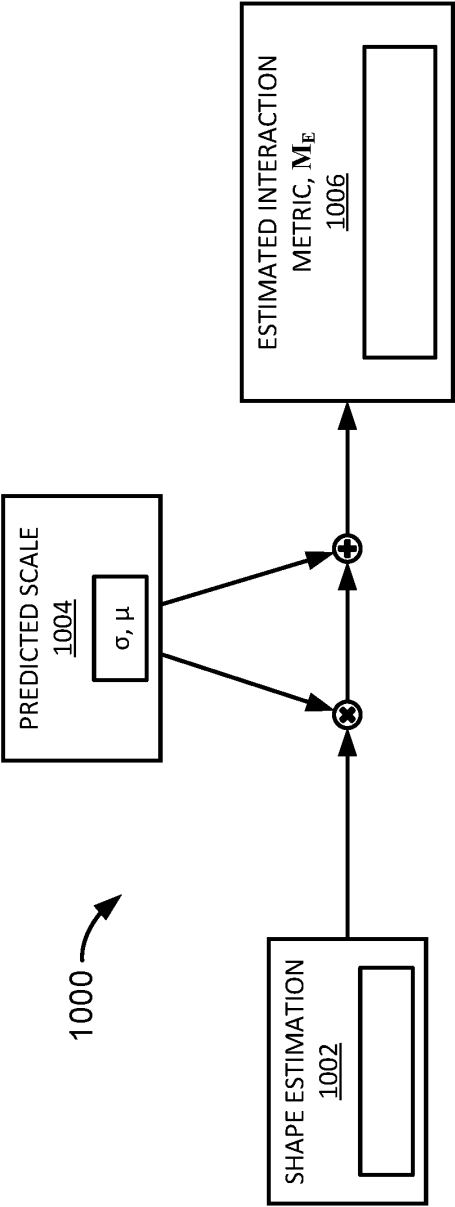


FIG. 10

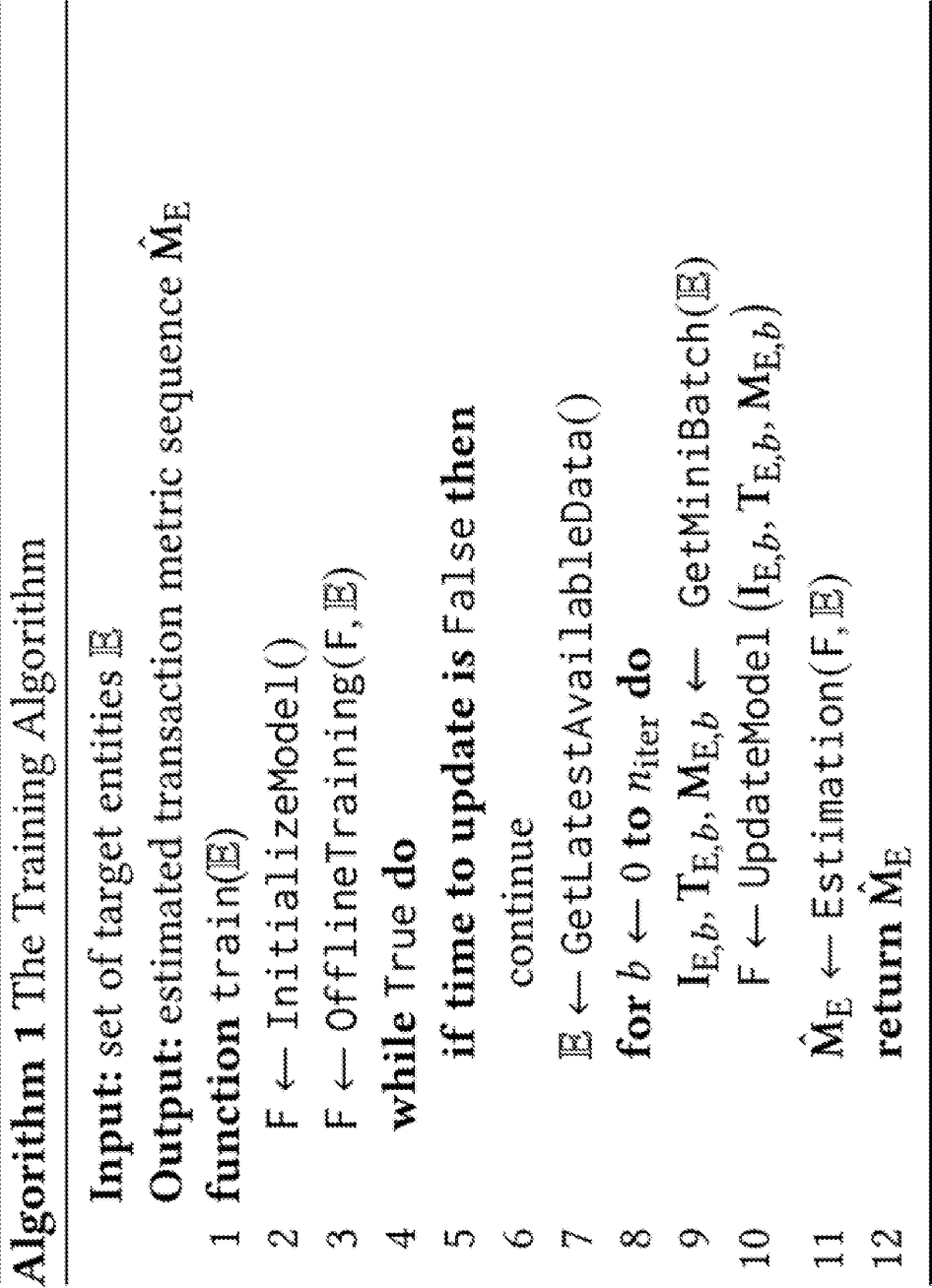


FIG. 11

1200

Algorithm 2 The Modified FLUSS Algorithm

Input: Entity time series T_E
Output: Sampling probability P

```
1 function getProb( $T_E$ )  
2   for  $j \leftarrow 1$  to  $d$  do  
3      $T_{j,MPI} \leftarrow \text{GetMatrixProfileIndex}(T_E^j)$   
4      $T_{j,CAC} \leftarrow \text{GetCorrectedArcCount}(T_{j,MPI})$   
5      $P \leftarrow \text{Add}(T_{j,CAC})$   
6      $p_{\min} \leftarrow \text{inf}$   
7   for  $j \leftarrow \text{length}(P)$  to 1 do  
8     if  $P[j] < p_{\min}$  then  
9        $p_{\min} \leftarrow P[j]$   
10    else  
11       $P[j] \leftarrow p_{\min}$   
12     $P \leftarrow \frac{P}{\text{Sum}(P)}$   
13  return  $P$ 
```

FIG. 12

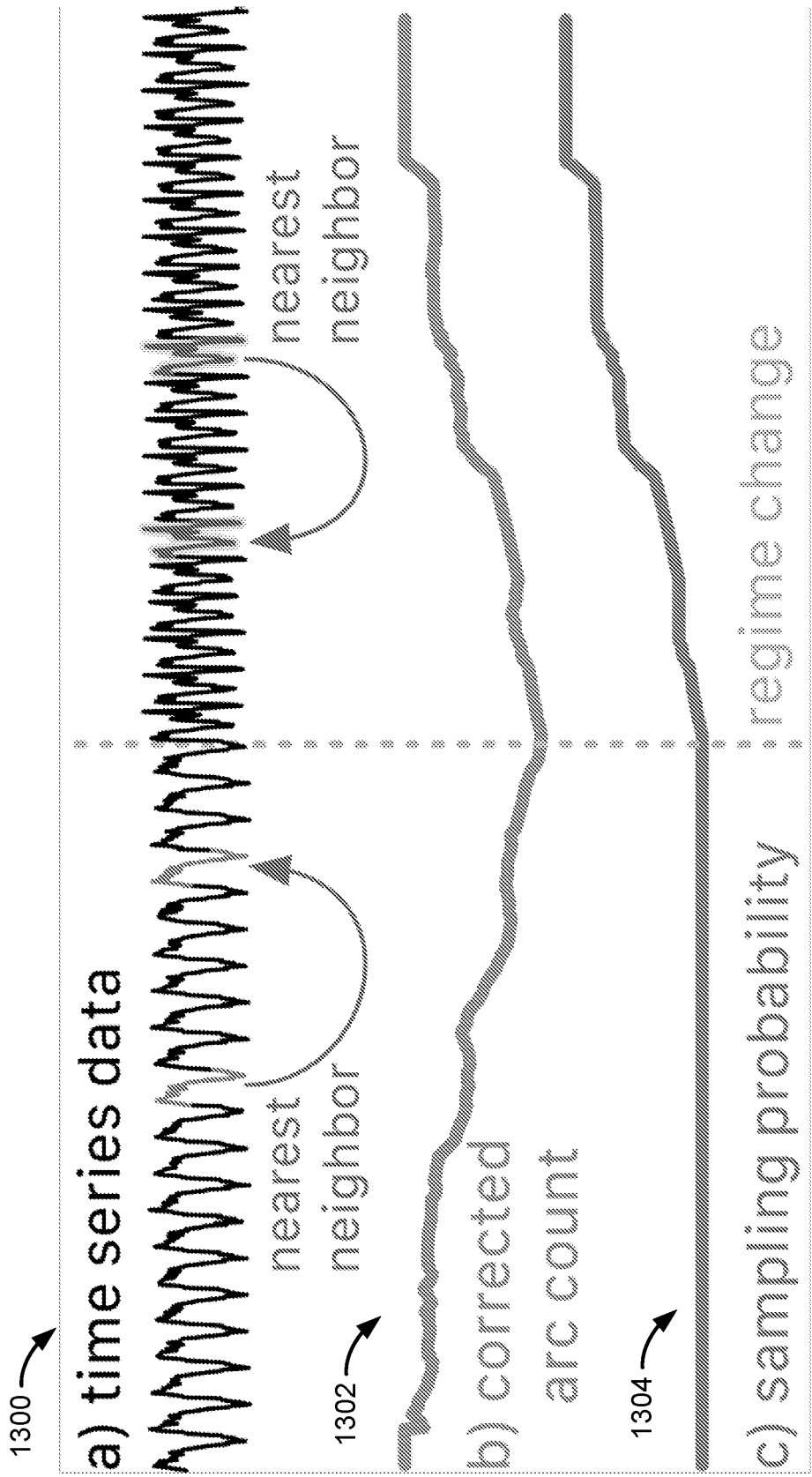


FIG. 13

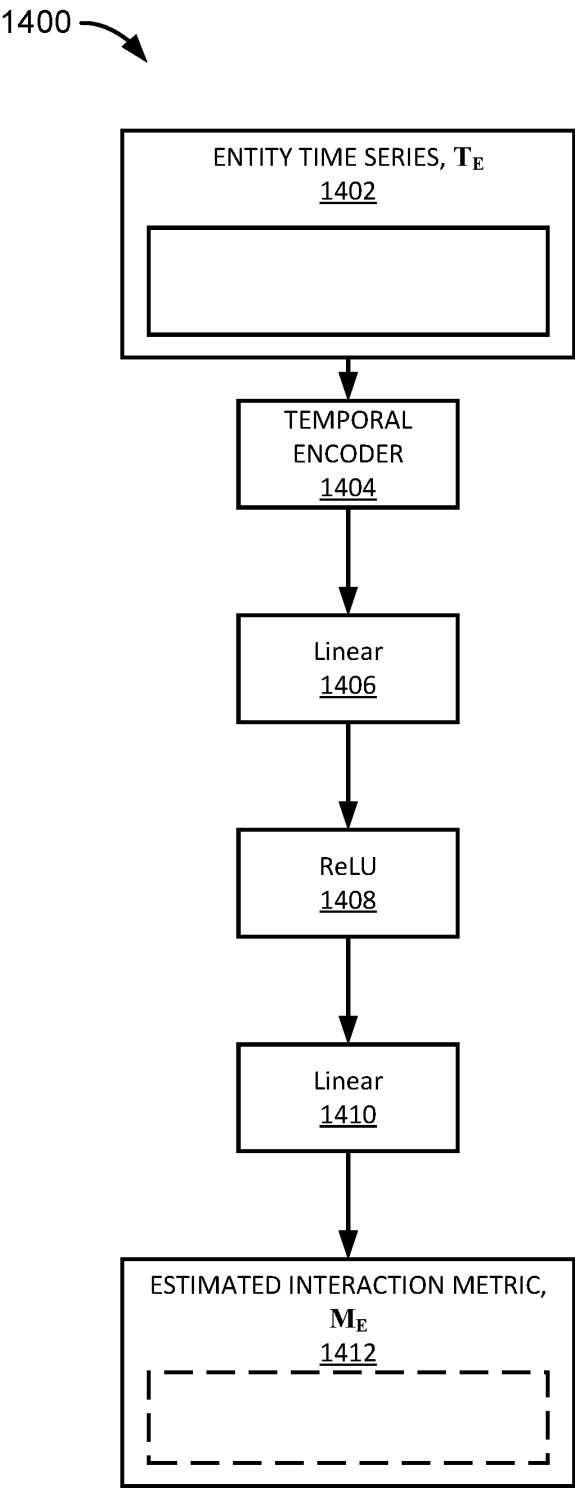


FIG. 14

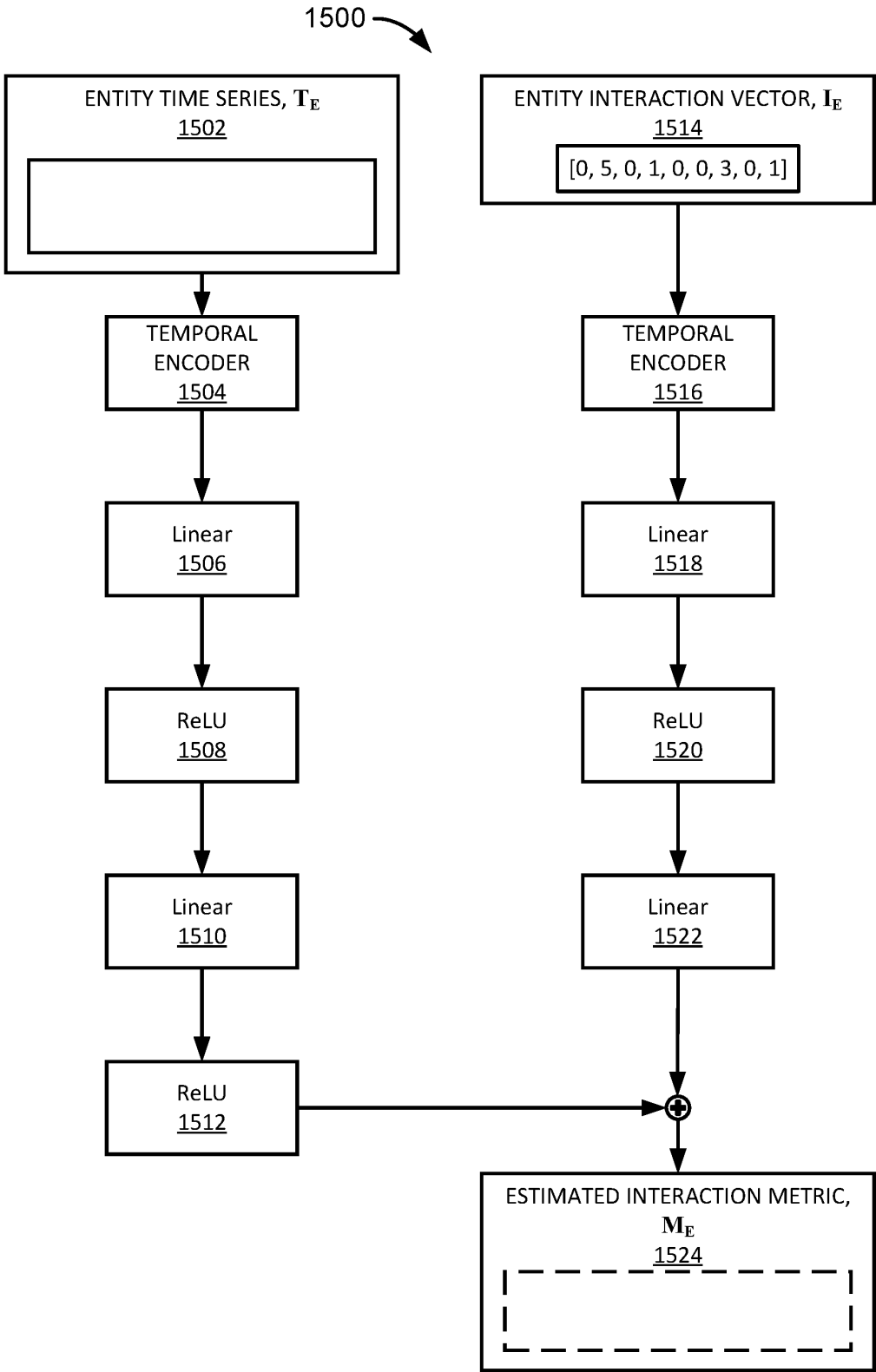
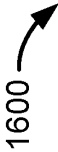


FIG. 15

1600 

	CNN-based Encoder			RNN-based Encoder		
	RMSE	NRMSE	R ²	RMSE	NRMSE	R ²
Base	8.2741	0.8545	0.1493	7.7352	0.8287	0.1943
Base + Inter.	7.3165	0.8256	0.2026	7.0617	0.8098	0.2268
% Improve	11.6%	3.4%	35.7%	8.7%	2.3%	16.7%

FIG. 16

1700 

	CNN-based Encoder			RNN-based Encoder		
	RMSE	NRMSE	R^2	RMSE	NRMSE	R^2
Base + Inter.	7.3165	0.8256	0.2026	7.0617	0.8098	0.2268
Propose	5.7147	0.7386	0.2771	6.4736	0.7426	0.2598
% Improve	21.9%	10.5%	36.8%	8.3%	8.3%	14.6%

FIG. 17

1800 

Method	RMSE	NRMSE	R^2
Linear Model	9.1732	1.1039	0.0312
k Nearest Neighbor	6.2690	0.8452	0.2217
Random Forest	6.0354	0.8224	0.2172
Gradient Boosting	7.7524	0.8670	0.1638
Proposed	5.7147	0.7386	0.2771
% Improve	4.4%	10.2%	27.3%

FIG. 18

1900 

Method	RMSE	NRMSE	R^2
Offline	5.7147	0.7386	0.2771
Online Baseline	5.5240	0.7159	0.3258
% Improve	3.3%	3.1%	17.6%

FIG. 19

2000 

Method	RMSE	NRMSE	R^2
Online Baseline	5.5240	0.7159	0.3258
Online Best	5.3800	0.7000	0.3400
% Improve	2.6%	2.2%	4.4%

FIG. 20

2100 

RMSE	Uniform	Fix (90)	Fix (365)	Decay	Segment	Average
Uniform	21.00	22.44	15.67	18.33	16.11	18.71
Similar	16.22	19.56	14.11	12.00	17.00	15.78
High-error	28.00	32.44	29.00	28.00	30.22	29.53
Low-error	12.11	9.89	8.44	9.22	7.22	9.38
High-confidence	14.67	17.11	12.78	11.67	11.67	13.58
Low-confidence	33.44	37.44	32.44	32.22	34.00	33.91
High-variability	25.44	31.11	26.00	23.56	27.11	26.64
Low-variability	20.33	19.89	14.89	14.11	13.11	16.47
Average	21.40	23.74	19.17	18.64	19.56	

FIG. 21

2200 →

NRMSE	Uniform	Fix (90)	Fix (365)	Decay	Segment	Average
Uniform	29.11	11.78	20.00	30.00	7.11	19.60
Similar	16.22	7.22	9.67	7.33	2.56	8.60
High-error	35.11	24.67	30.00	25.56	17.67	26.60
Low-error	28.00	9.78	18.89	15.67	6.56	15.78
High-confidence	28.33	13.33	21.78	15.44	6.33	17.04
Low-confidence	37.22	34.67	34.00	28.22	23.22	31.47
High-variability	32.78	27.22	28.00	25.22	19.22	26.49
Low-variability	29.67	13.11	22.89	17.56	8.89	18.42
Average	29.56	17.72	23.15	20.63	11.45	

FIG. 22

2300 

R^2	Uniform	Fix (90)	Fix (365)	Decay	Segment	Average
Uniform	30.56	8.44	22.11	30.67	10.67	20.49
Similar	16.11	5.00	13.22	9.89	5.67	9.98
High-error	32.44	21.89	30.44	24.67	17.67	25.42
Low-error	27.89	5.78	23.00	16.89	8.67	16.45
High-confidence	28.89	10.89	24.33	19.22	10.33	18.73
Low-confidence	36.89	28.22	34.78	26.67	23.11	29.93
High-variability	28.22	24.44	26.11	21.89	19.78	24.09
Low-variability	30.67	11.56	23.56	18.56	10.22	18.91
Average	28.96	14.53	24.69	21.06	13.26	

FIG. 23

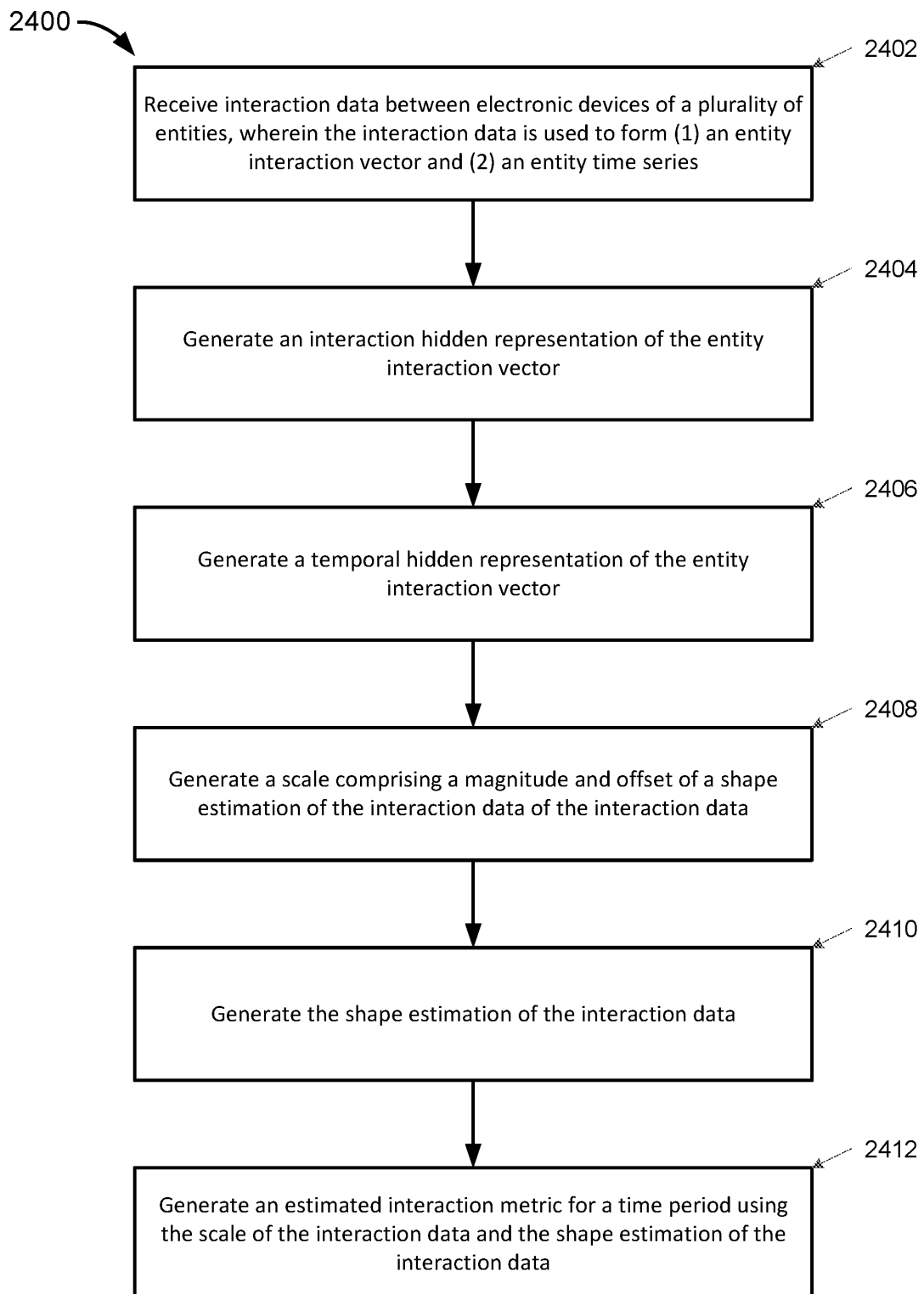


FIG. 24

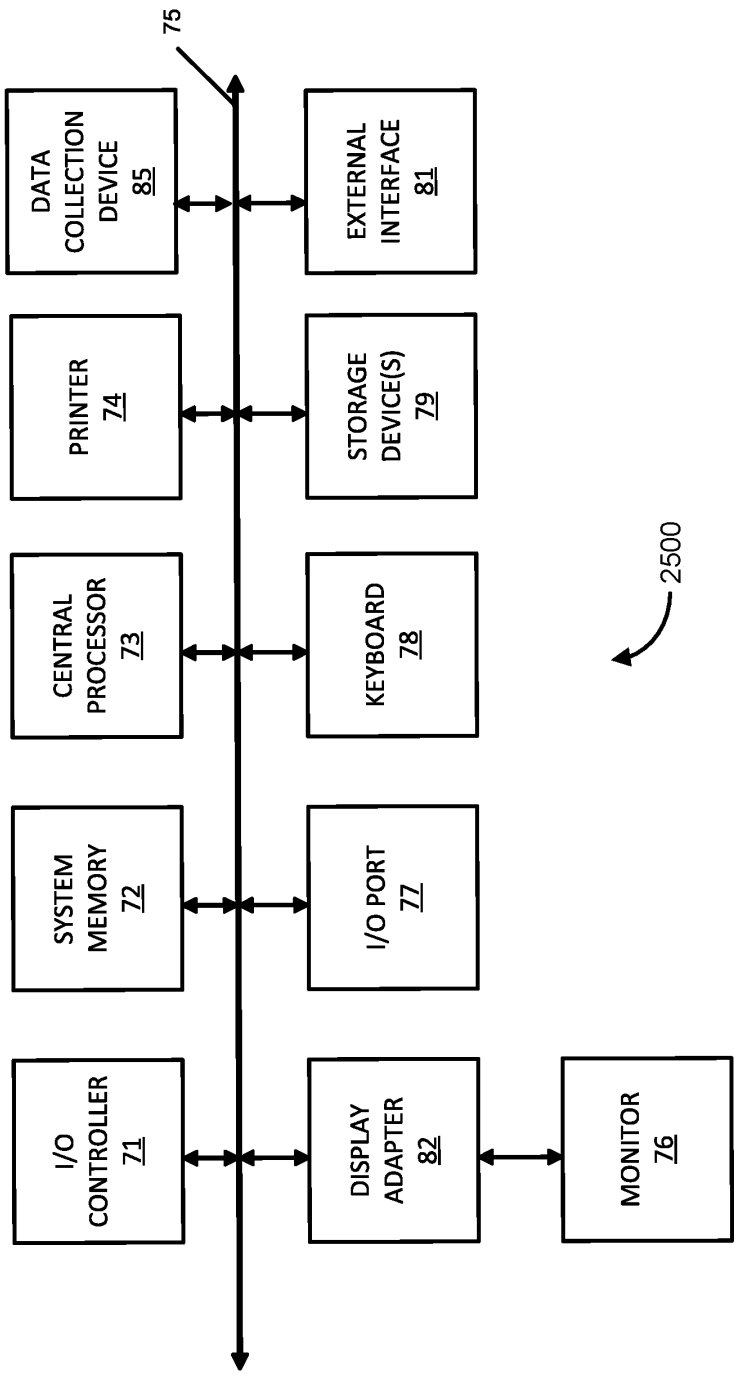


FIG. 25