Drawings

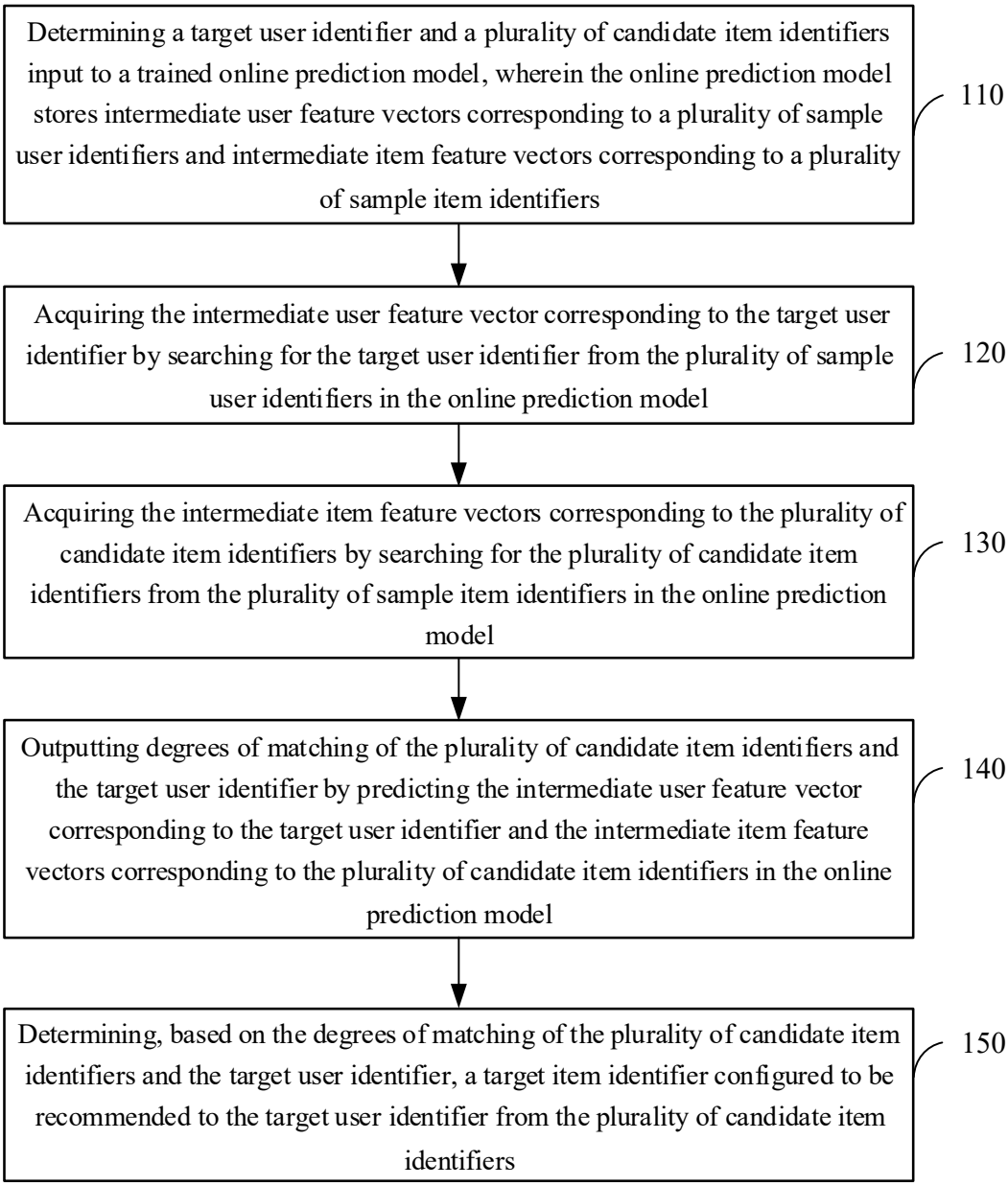

FIG. 1

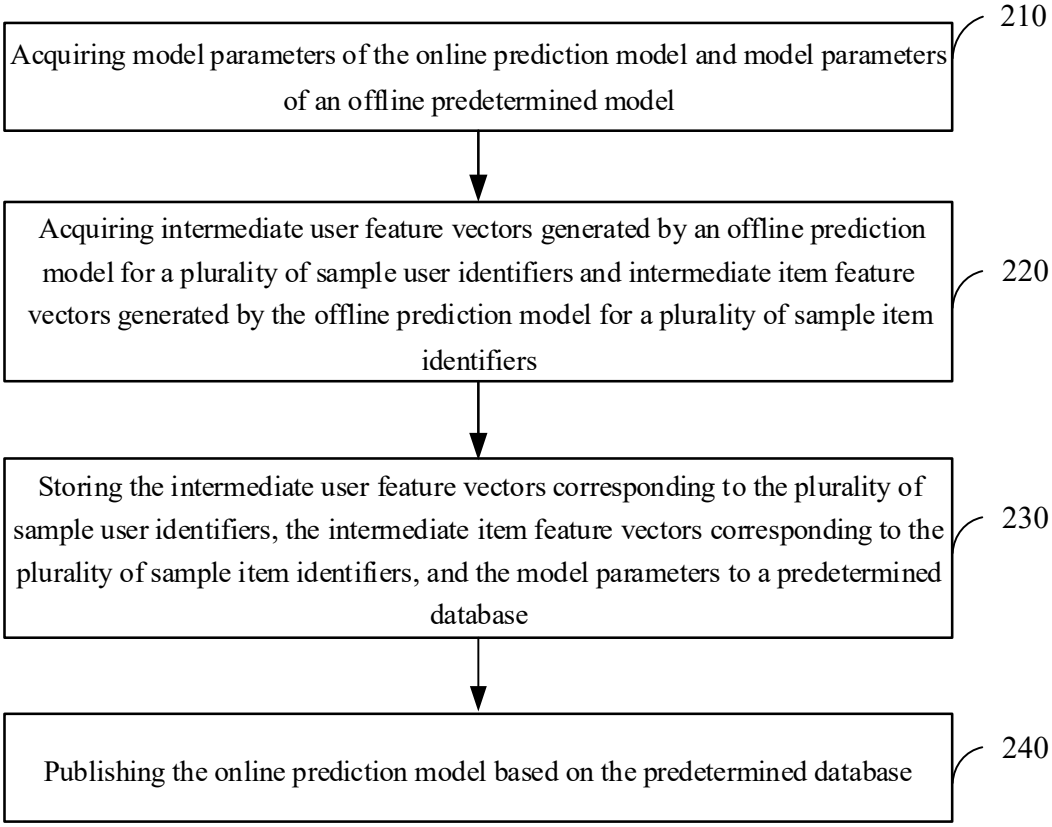
Acquiring model parameters of the online prediction model and model parameters of an offline predetermined model
210
Acquiring intermediate user feature vectors generated by an offline prediction model for a plurality of sample user identifiers and intermediate item feature vectors generated by the offline prediction model for a plurality of sample item identifiers
220
Storing the intermediate user feature vectors corresponding to the plurality of sample user identifiers, the intermediate item feature vectors corresponding to the plurality of sample item identifiers, and the model parameters to a predetermined database
230
Publishing the online prediction model based on the predetermined database
240

FIG. 2

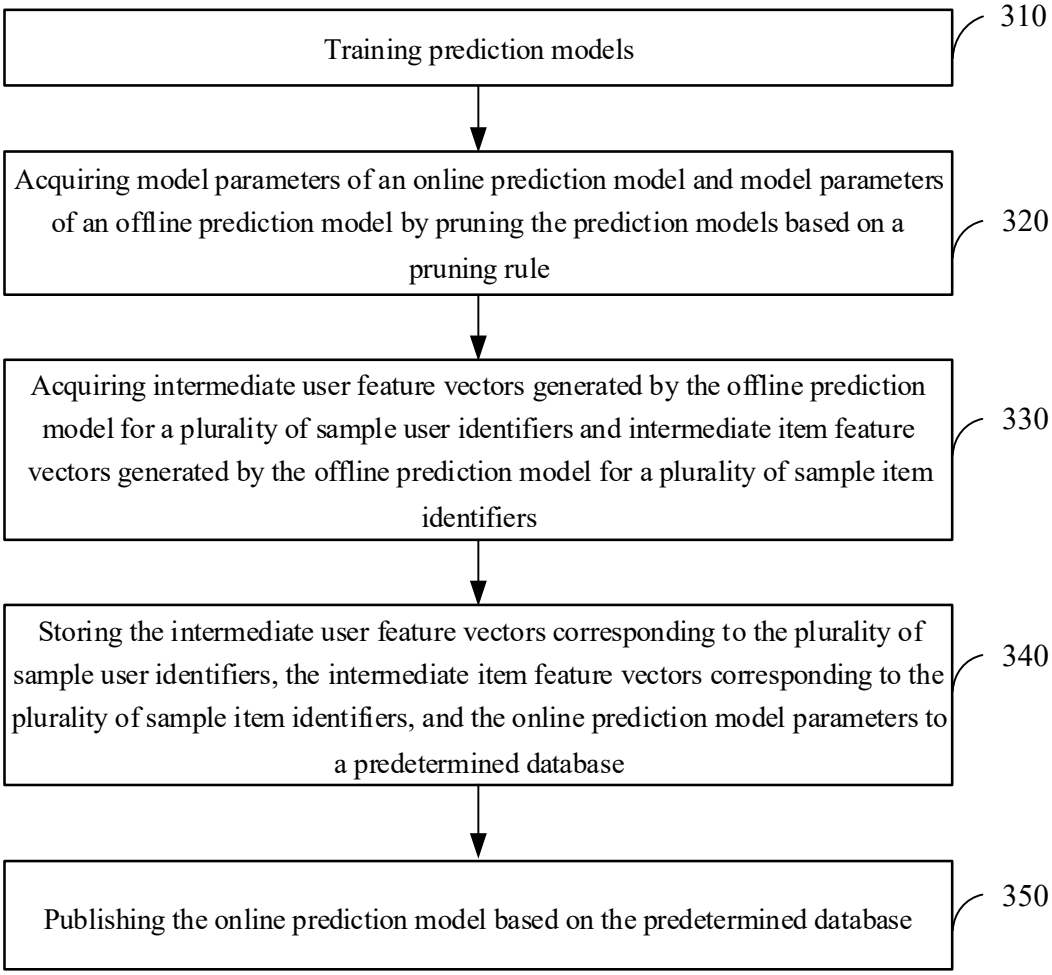
Training prediction models
310
Acquiring model parameters of an online prediction model and model parameters of an offline prediction model by pruning the prediction models based on a pruning rule
320
Acquiring intermediate user feature vectors generated by the offline prediction model for a plurality of sample user identifiers and intermediate item feature vectors generated by the offline prediction model for a plurality of sample item identifiers
330
Storing the intermediate user feature vectors corresponding to the plurality of sample user identifiers, the intermediate item feature vectors corresponding to the plurality of sample item identifiers, and the online prediction model parameters to a predetermined database
340
Publishing the online prediction model based on the predetermined database
350

FIG. 3

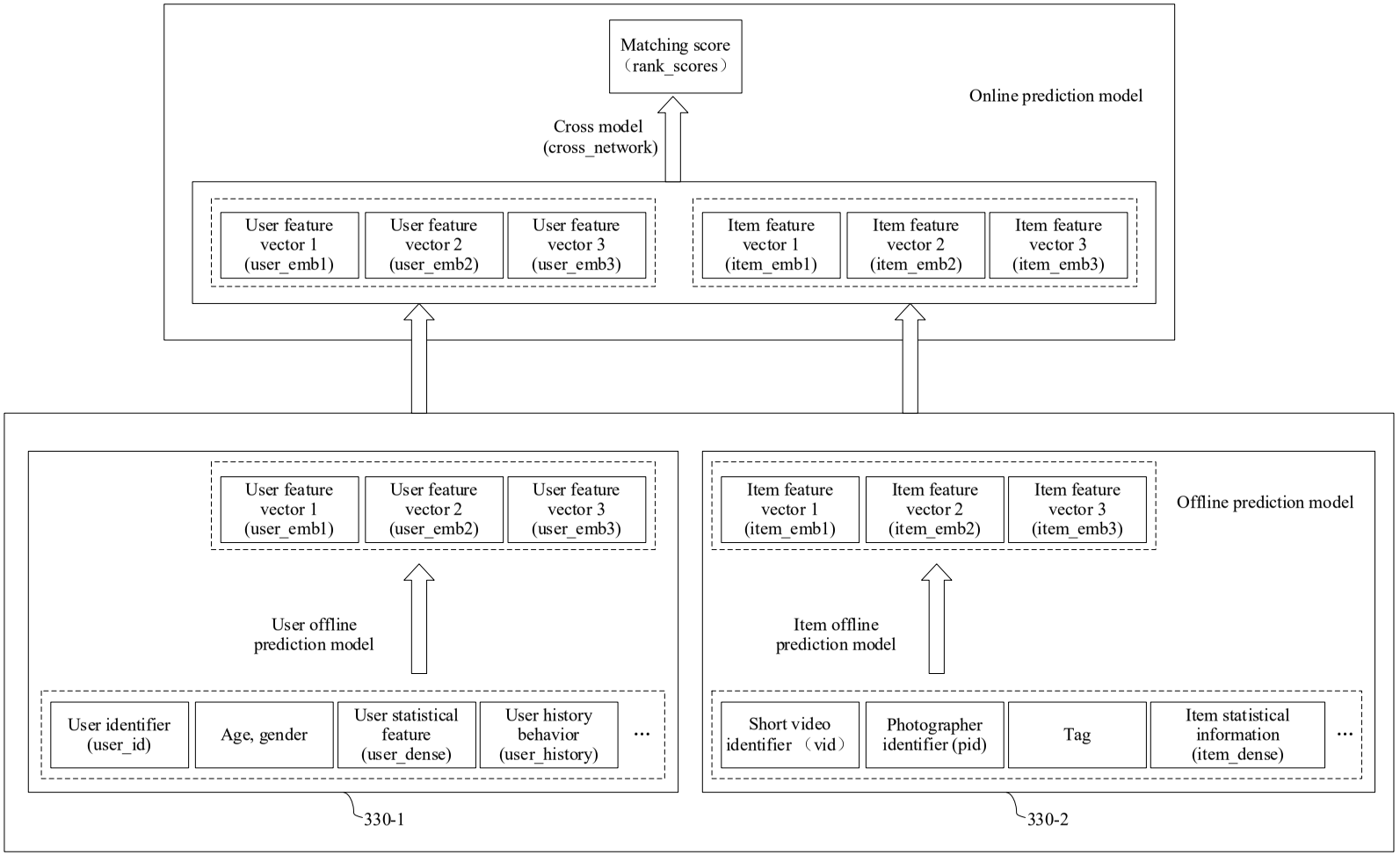
Matching score
（rank_scores）
Online prediction model
Cross model
(cross_network)
User feature vector 1 (user_emb1)
User feature vector 2 (user_emb2)
User feature vector 3 (user_emb3)
Item feature vector 1 (item_emb1)
Item feature vector 2 (item_emb2)
Item feature vector 3 (item_emb3)
User feature vector 1 (user_emb1)
User feature vector 2 (user_emb2)
User feature vector 3 (user_emb3)
User offline prediction model
User identifier (user_id)
Age, gender
User statistical feature (user_dense)
User history behavior (user_history)
...
330-1
Item feature vector 1 (item_emb1)
Item feature vector 2 (item_emb2)
Item feature vector 3 (item_emb3)
Offline prediction model
Item offline prediction model
Short video identifier （vid）
Photographer identifier (pid)
Tag
Item statistical information (item_dense)
...
330-2

FIG. 4

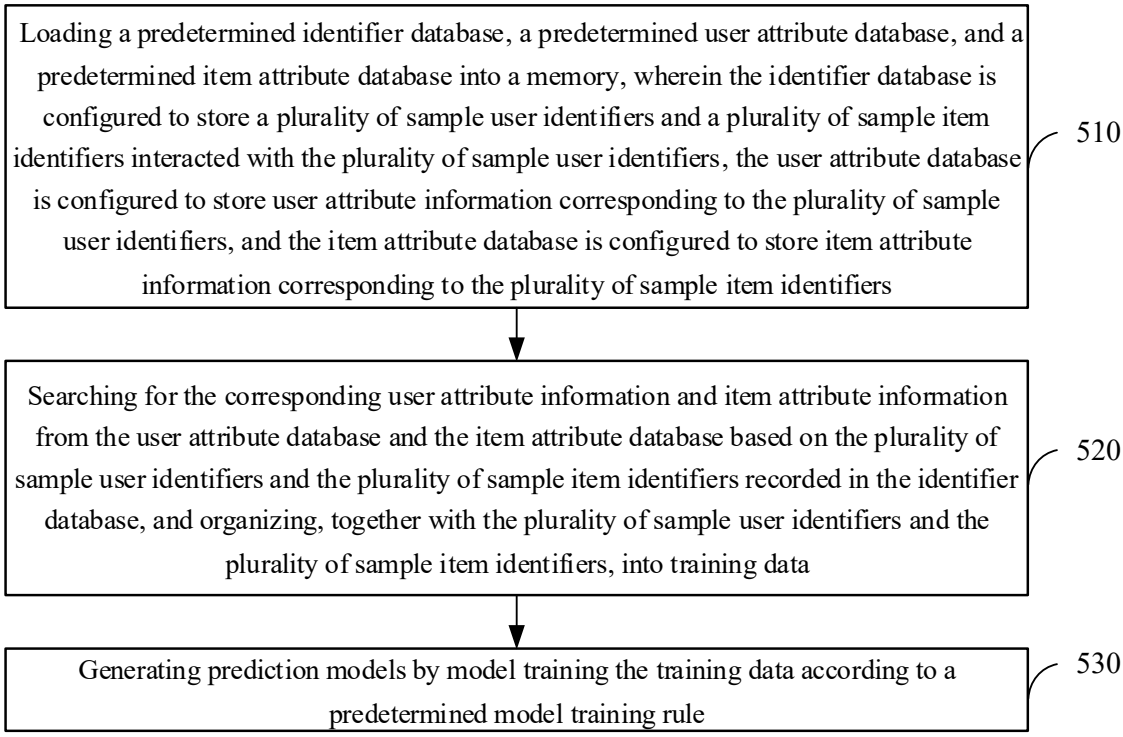

FIG. 5

User identifier (user_id)	Item identifier (item_id)
110	6010
111	6011
112	6012
110	6013
…	…

FIG. 6

User identifier (user_id)	Age	Gender	
110	16	Male	
111	23	Female	…
112	18	Female	
…	…	…	

FIG. 7

Item identifier (item_id)	Tag	Country
6010	Exercise, outdoor	IN
6011	Beauty, funny	ID
6012	Tourism, scenery	RU
…	…	…

FIG. 8

User identifier (user_id)	Item identifier (item_id)	Age	Gender	Tag	Country
110	6010	16	Male	Exercise, outdoor	IN
111	6011	23	Female	Beauty, funny	ID
112	6012	18	Female	Tourism, scenery	RU
110	6013	28	Male	Story, funny	ID
…	…	…	…	…	…

FIG. 9

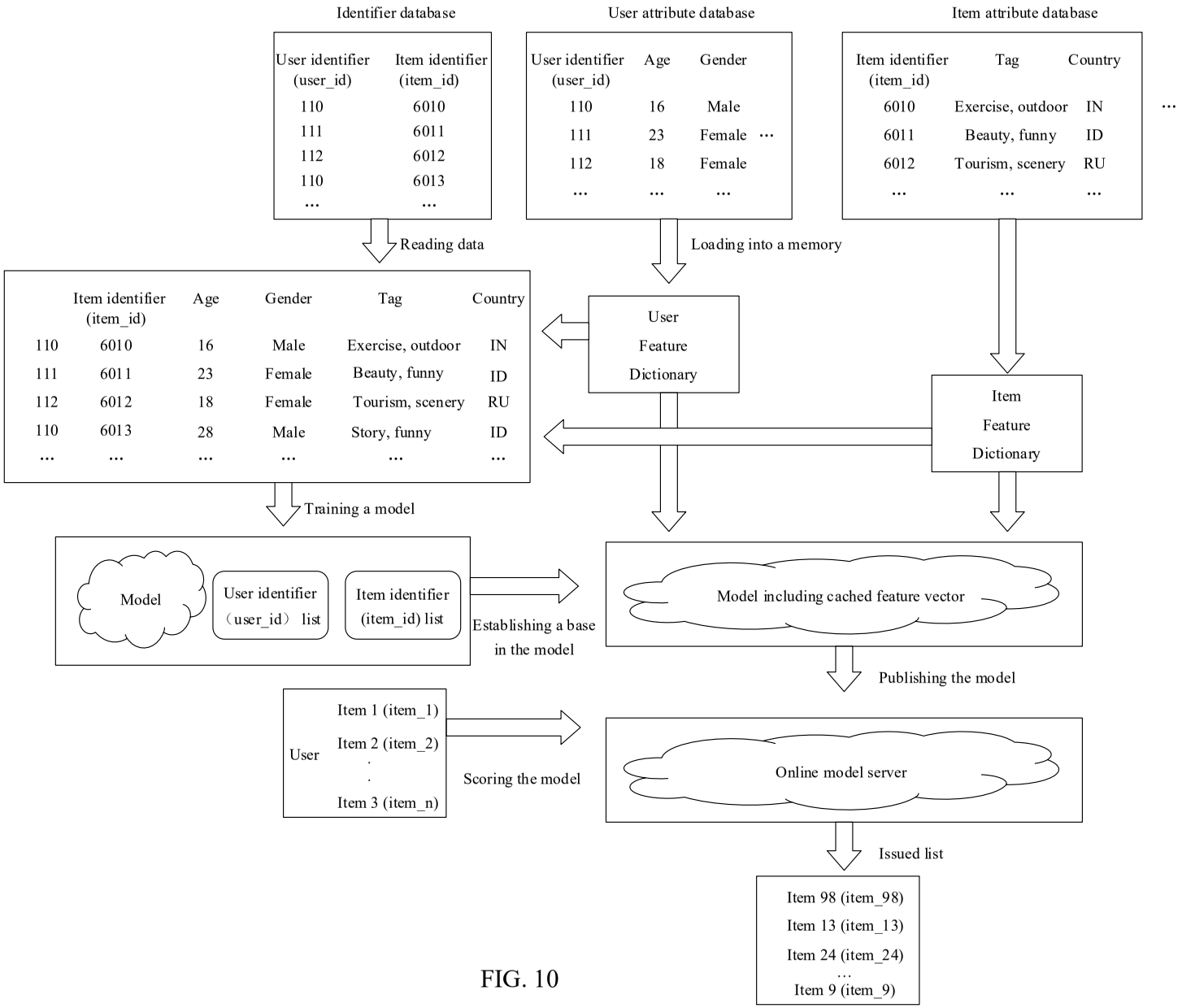
Identifier database
User identifier (user_id)
Item identifier (item_id)
110
6010
111
6011
112
6012
110
6013
User attribute database
User identifier (user_id)
Age
Gender
110
16
Male
111
23
Female
112
18
Female
Item attribute database
Item identifier (item_id)
Tag
Country
6010
Exercise, outdoor
IN
6011
Beauty, funny
ID
6012
Tourism, scenery
RU
Reading data
Loading into a memory
Item identifier (item_id)
Age
Gender
Tag
Country
110
6010
16
Male
Exercise, outdoor
IN
111
6011
23
Female
Beauty, funny
ID
112
6012
18
Female
Tourism, scenery
RU
110
6013
28
Male
Story, funny
ID
User Feature Dictionary
Item Feature Dictionary
Training a model
Model
User identifier （user_id） list
Item identifier (item_id) list
Establishing a base in the model
Model including cached feature vector
Publishing the model
User
Item 1 (item_1)
Item 2 (item_2)
Item 3 (item_n)
Scoring the model
Online model server
Issued list
Item 98 (item_98)
Item 13 (item_13)
Item 24 (item_24)
Item 9 (item_9)

FIG. 10

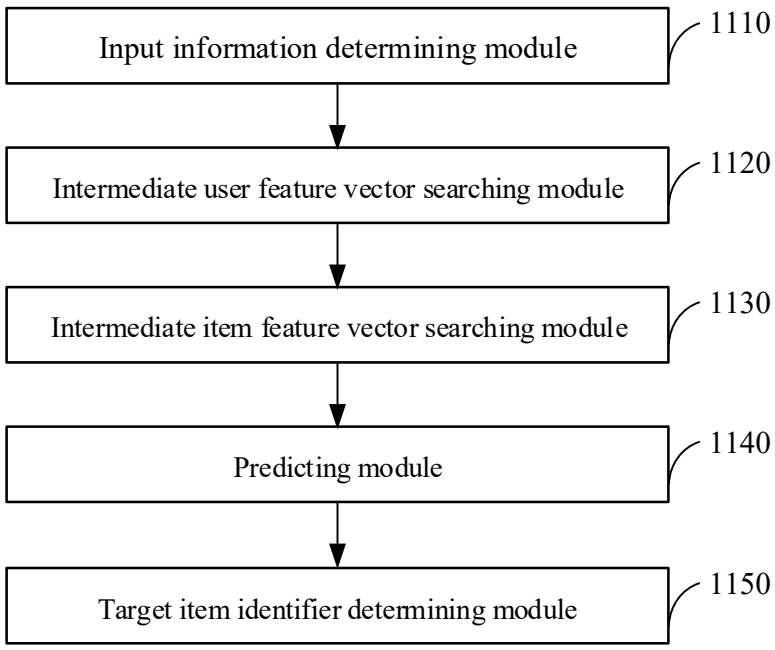
Input information determining module
1110
Intermediate user feature vector searching module
1120
Intermediate item feature vector searching module
1130
Predicting module
1140
Target item identifier determining module
1150

FIG. 11

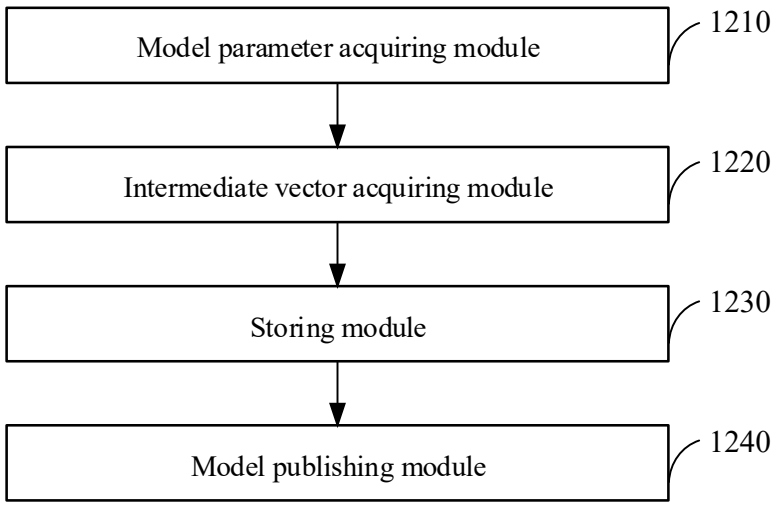
Model parameter acquiring module
1210
Intermediate vector acquiring module
1220
Storing module
1230
Model publishing module
1240

FIG. 12

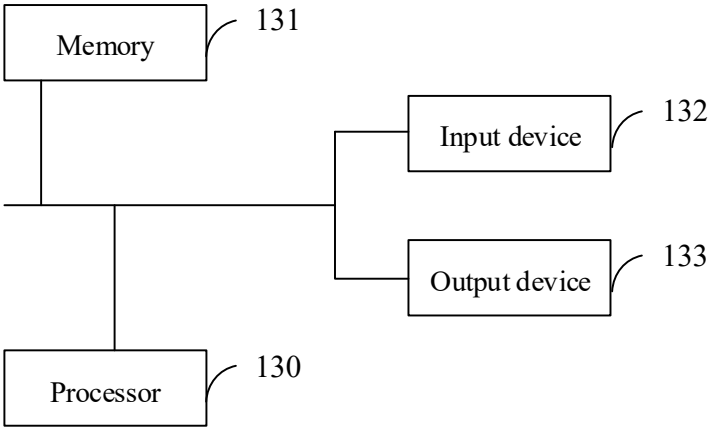
Memory
131
Input device
132
Output device
133
Processor
130

FIG. 13