**DRAWINGS**

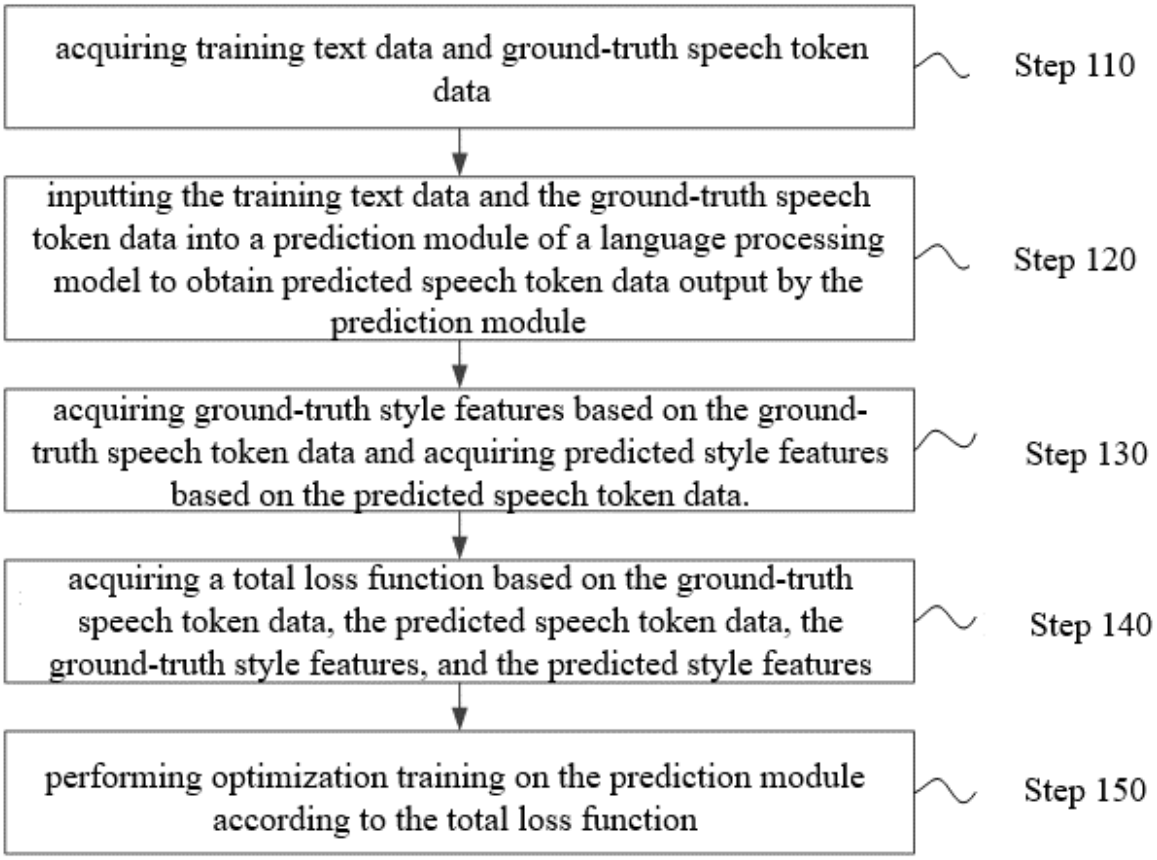



**Fig. 1**

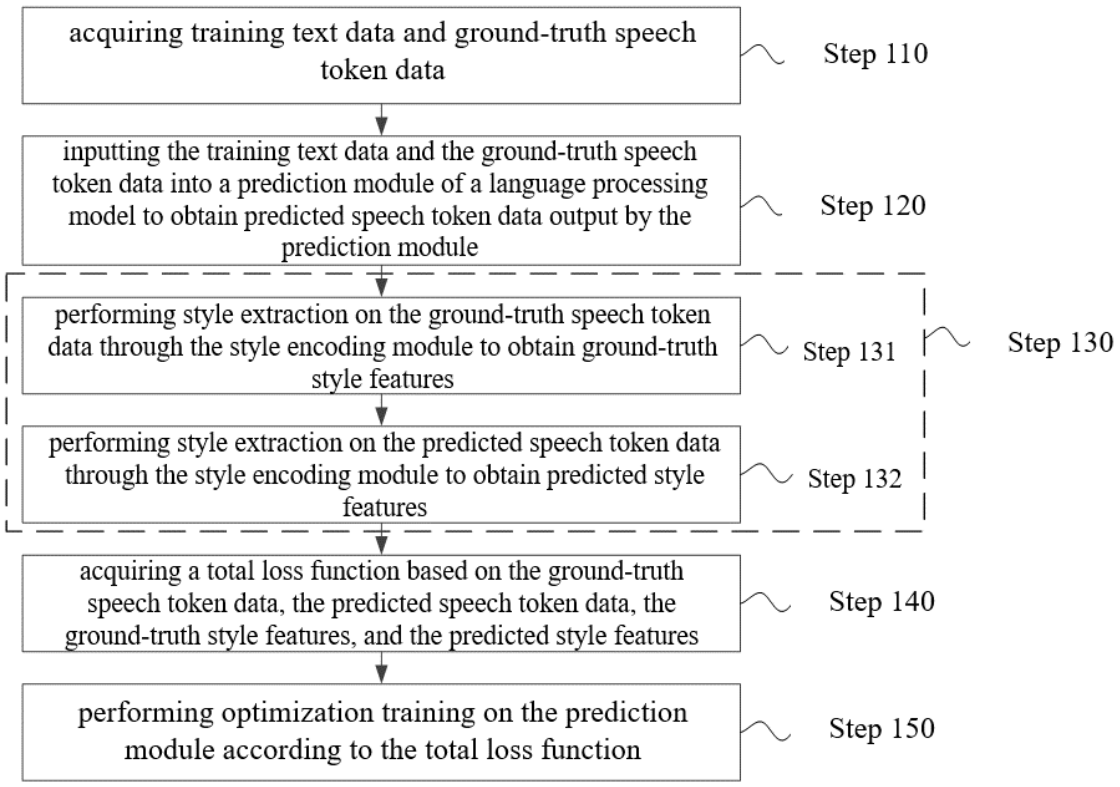

acquiring training text data and ground-truth speech token data
Step 110
inputting the training text data and the ground-truth speech token data into a prediction module of a language processing model to obtain predicted speech token data output by the prediction module
Step 120
performing style extraction on the ground-truth speech token data through the style encoding module to obtain ground-truth style features
Step 131
Step 130
performing style extraction on the predicted speech token data through the style encoding module to obtain predicted style features
Step 132
acquiring a total loss function based on the ground-truth speech token data, the predicted speech token data, the ground-truth style features, and the predicted style features
Step 140
performing optimization training on the prediction module according to the total loss function
Step 150

**Fig. 2**

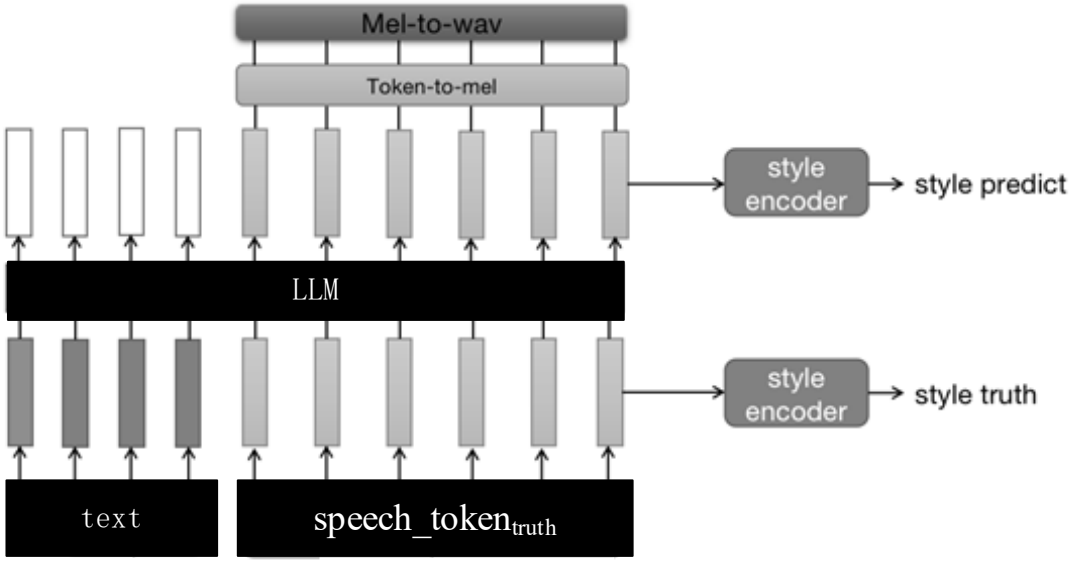

Mel-to-wav
Token-to-mel
style encoder
style predict
LLM
style encoder
style truth
text
speech_token$_{truth}$

**Fig. 3**

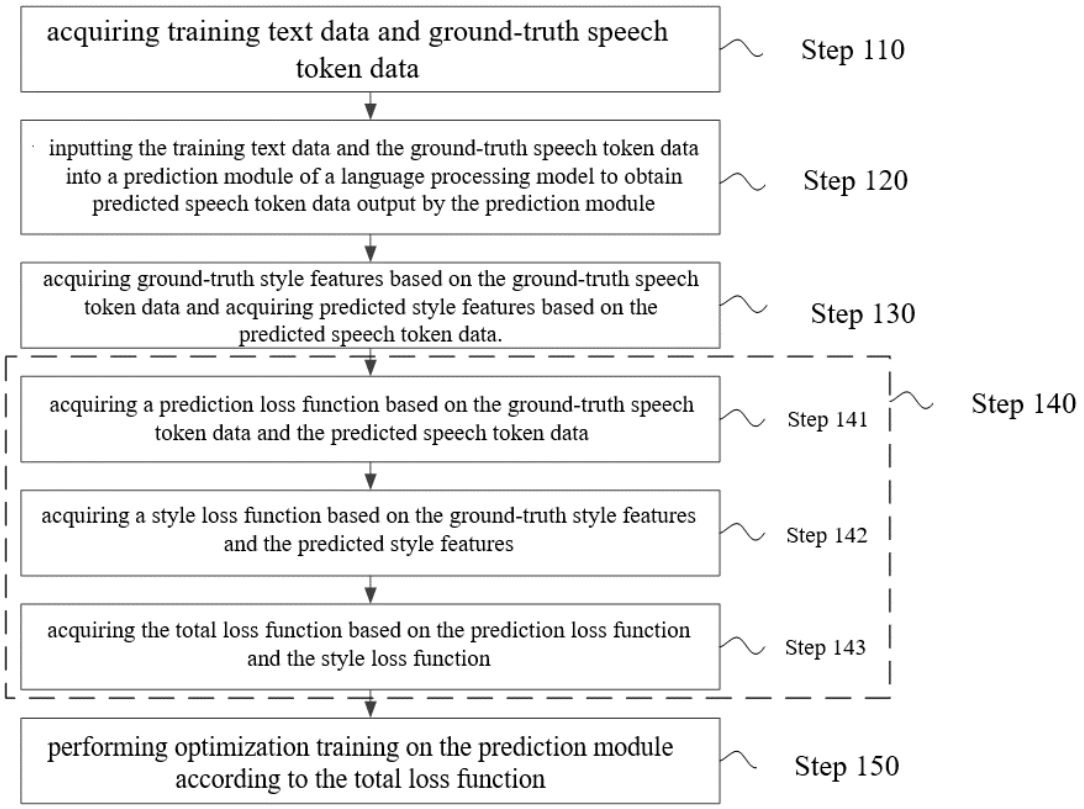

acquiring training text data and ground-truth speech token data
Step 110
inputting the training text data and the ground-truth speech token data into a prediction module of a language processing model to obtain predicted speech token data output by the prediction module
Step 120
acquiring ground-truth style features based on the ground-truth speech token data and acquiring predicted style features based on the predicted speech token data.
Step 130
acquiring a prediction loss function based on the ground-truth speech token data and the predicted speech token data
Step 141
acquiring a style loss function based on the ground-truth style features and the predicted style features
Step 142
acquiring the total loss function based on the prediction loss function and the style loss function
Step 143
Step 140
performing optimization training on the prediction module according to the total loss function
Step 150

**Fig. 4**

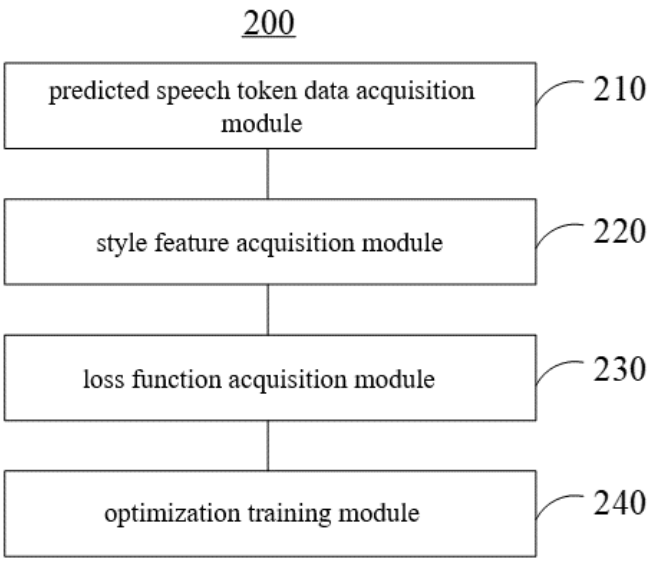

200
predicted speech token data acquisition module
210
style feature acquisition module
220
loss function acquisition module
230
optimization training module
240

**Fig. 5**

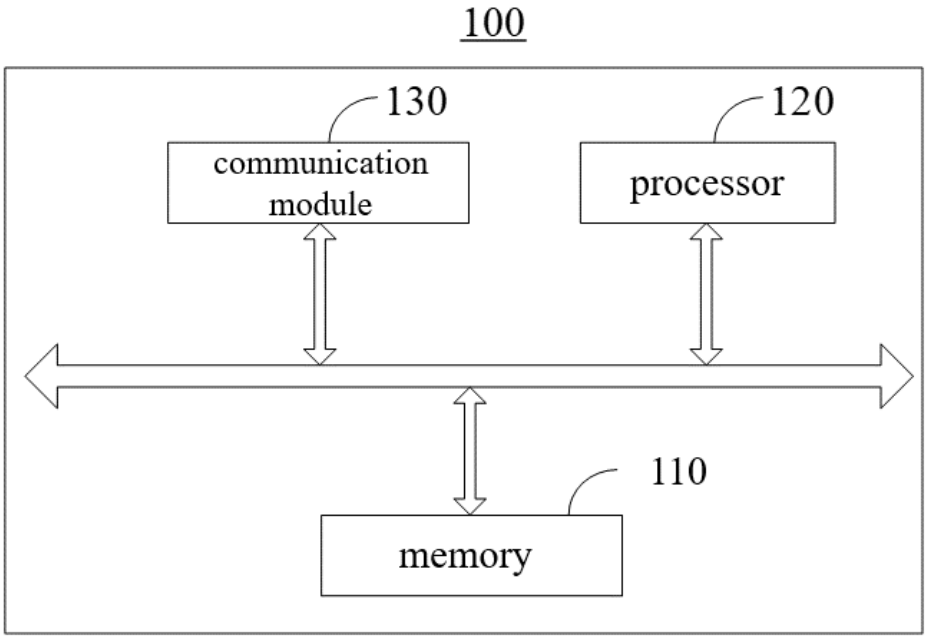



**Fig. 6**