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**Algorithm 1:** Dataset simulation.

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**Data:**  $S$  ; // list of speakers  
 $U = \{U_s\}_{s \in S}$  ; // list of utterances  
 $N_{conv}, N_{conv\_spk}$  ; // # conversations and # spks. each  
 $N_{utt}^{min}$  ; // min # utterances per spk. in a conversation  
 $N_{utt}^{max}$  ; // max # utterances per spk. in a conversation  
**Result:**  $C$  ; // set of simulated conversations

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1  $C \leftarrow \emptyset$  ;
2 for  $i \leftarrow 0$ ;  $i < N_{conv}$ ;  $i \leftarrow i + 1$  do
3   Random sample  $\tilde{S}_i$  from  $S$ , with
      $\tilde{S}_i = \{s_p | s_p \in S, 0 \leq p < N_{conv\_spk}\}$  ;
4    $\tilde{U}_i \leftarrow \emptyset$  ;
5   for  $j \leftarrow 0$ ;  $j < N_{conv\_spk}$ ;  $j \leftarrow j + 1$  do
6     Randomize  $K_{ij}$ ,  $N_{utt}^{min} \leq K_{ij} < N_{utt}^{max}$  ;
7     Random sample  $\tilde{U}_{ij}$  from  $U_s$ , with
        $\tilde{U}_{ij} = \{u_p | u_p \in U_{s=\tilde{S}_i[j]}, 0 \leq p < K_{ij}\}$  ;
8      $\tilde{U}_i \leftarrow \tilde{U}_i \cup \tilde{U}_{ij}$  ;
9     Break while loop ;
10  Add in-between silent utterances of 2 seconds
    into  $\tilde{U}_i$  ;
11  Shuffle  $\tilde{U}_i$  ;
12   $C_i \leftarrow$  Concatenate utterances  $\tilde{U}_i$  ;
13   $C.add(C_i)$ ;
14 return  $C$ 
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