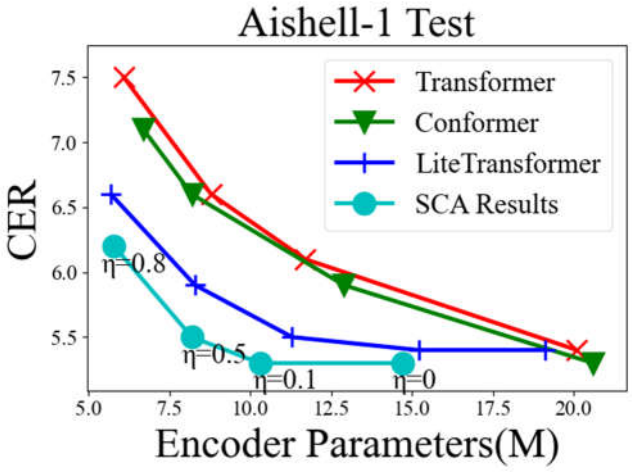
In our paper, we show the trade-off results between the performance and encoder parameter size of SCA and the human-designed baselines on Aishell-1 and HKUST. For SCA, we conduct experiments with $\eta \in \{0,0.1,0.5,0.8\}$, respectively. For the human-designed baselines, we adjust the block number to get results of different encoder parameters.
We further list the result details of our experiments as follow:

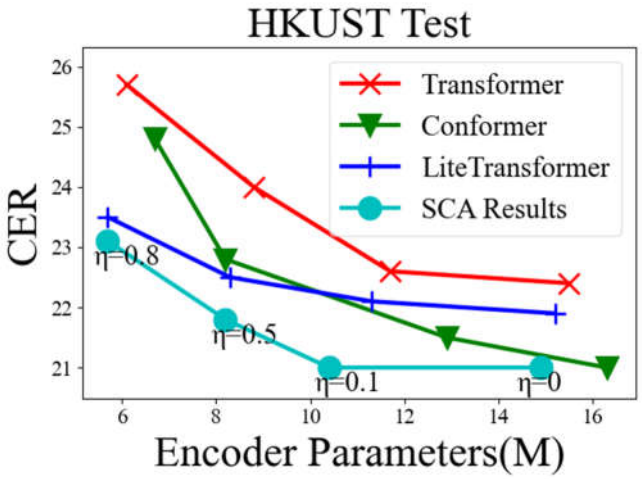
The result details of Aishell-1:



The performance detail of SCA and the human-designed architectures.

Architecture	η	#Block	#Params(M)	dev	test
Transformer	-	3	6.1	6.8	7.5
Transformer	-	5	8.8	6.0	6.6
Transformer	-	7	11.7	5.4	6.1
Transformer	-	13	20.1	4.9	5.4
Conformer	-	3	6.7	6.4	7.1
Conformer	-	4	8.2	6.0	6.6
Conformer	-	7	12.9	5.3	5.9
Conformer	-	12	20.6	4.8	5.2
Lite Transformer	-	10	5.7	6.0	6.6
Lite Transformer	-	17	8.3	5.4	5.9
Lite Transformer	-	25	11.3	4.9	5.5
Lite Transformer	-	35	15.2	4.9	5.4
Lite Transformer	-	45	19.1	4.9	5.4
SCA	0.8	5	5.8	5.6	6.2
SCA	0.5	8	8.2	4.9	5.5
SCA	0.1	8	10.3	4.8	5.2
SCA	0	8	14.7	4.8	5.2

The result details of HKUST:



The performance detail of SCA and the human-designed architectures. For HKUST, we sample 5% from the train set as the dev data.

Architecture	η	#Block	#Params(M)	dev	test
Transformer	-	3	6.1	25.3	25.7
Transformer	-	5	8.8	23.6	24.0
Transformer	-	7	11.7	22.3	22.6
Transformer	-	10	15.5	22.1	22.4
Conformer	-	3	6.7	24.4	24.8
Conformer	-	4	8.2	22.5	22.8
Conformer	-	7	12.9	21.1	21.5
Conformer	-	9	16.3	20.0	21.0
Lite Transformer	-	10	5.7	23.0	23.5
Lite Transformer	-	17	8.3	22.3	22.5
Lite Transformer	-	25	11.3	21.9	22.1
Lite Transformer	-	35	15.2	21.4	21.9
SCA	0.8	5	5.7	23.0	23.1
SCA	0.5	8	8.2	21.5	21.8
SCA	0.1	8	10.4	20.3	21.0
SCA	0	8	14.5	20.1	21.0