Smoothing method	Inter-polation	PER ± 1 sd	
Good-Turing	no	8.28 ± 0.12	
Witten–Bell	no	8.00 ± 0.13	
absolute disc. of 0.9	no	11.71 ± 0.14	
original Kneser–Ney	no	8.62 ± 0.13	
modified Kneser–Ney	no	9.18 ± 0.13	
Witten–Bell	yes	7.68 ± 0.12	
absolute disc. of 0.5	yes	8.03 ± 0.13	
absolute disc. of 0.8	yes	7.56 ± 0.13	
absolute disc. of 0.9	yes	7.52 ± 0.12	
absolute disc. of 1.0	yes	8.24 ± 0.13	
original Kneser–Ney	yes	6.86 ± 0.12	
modified Kneser–Ney	yes	6.75 ± 0.12	
			6.0 8.0 10.0 12.0

Table 1: PER of letter-to-phone conversion using different smoothing methods and interpolation during graphone LM training. Results using a 6-gram 0-1 model.

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