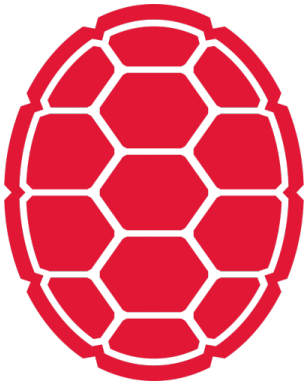


Machine Translation

Computational Linguistics: Jordan Boyd-Graber
University of Maryland

WORD-BASED MODELS

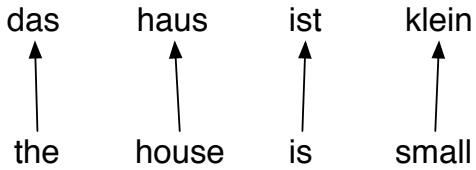
Adapted from material by Philipp Koehn

Example

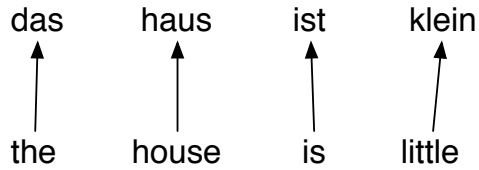
das		Haus		ist		klein	
e	$t(e\|f)$	*e*	$t(e\|f)$	*e*	$t(e\|f)$	*e*	$t(e\|f)$
the	0.7	*house*	0.8	*is*	0.8	*small*	0.4
that	0.15	*building*	0.16	*'s*	0.16	*little*	0.4
which	0.075	*home*	0.02	*exists*	0.02	*short*	0.1
who	0.05	*household*	0.015	*has*	0.015	*minor*	0.06
this	0.025	*shell*	0.005	*are*	0.005	*petty*	0.04

$$p(\mathbf{e}, a|\mathbf{f}) = \frac{\epsilon}{(l_f+1)^{l_e}} \prod_{j=1}^{l_e} t(e_j|f_{a(j)})$$

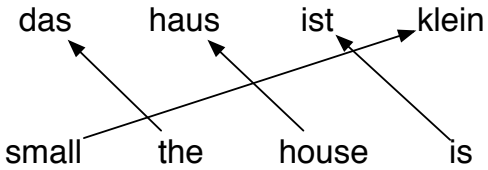
(A)



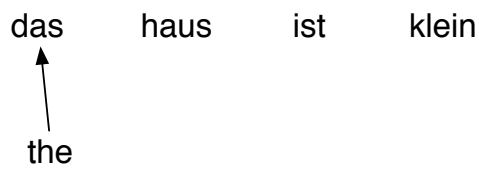
(B)



(C)



(D)



Example

Example

A)

$$\frac{1.0}{(4+1)^4}.7 \cdot .8 \cdot .8 \cdot .4 = \tag{1}$$

Example

A)

$$\frac{1.0}{(4+1)^4}.7 \cdot .8 \cdot .8 \cdot .4 = 0.00029 \tag{1}$$

Example

B)

Example

B)

$$\frac{1.0}{(4+1)^4}.7 \cdot .8 \cdot .8 \cdot .4 = \tag{1}$$

Example

B)

$$\frac{1.0}{(4+1)^4}.7 \cdot .8 \cdot .8 \cdot .4 = 0.00029 \quad (1)$$

Example

C)

Example

C)

$$\frac{1.0}{(4+1)^4}.7 \cdot .8 \cdot .8 \cdot .4 = \tag{1}$$

Example

C)

$$\frac{1.0}{(4+1)^4}.7 \cdot .8 \cdot .8 \cdot .4 = 0.00029 \tag{1}$$

Example

D)

Example

D)

$$\frac{1.0}{(4+1)}.7 = \tag{1}$$

Example

D)

$$\frac{1.0}{(4+1)}.7 = 0.14 \tag{1}$$