## Introduction to machine translation

Quiz, 4 questions

## **Congratulations! You passed!** Next Item 1/1 point Find correct statements below. Recent machine translation systems provide equally good quality for all language pairs. **Un-selected** is correct Machine Translation area was developing with gradual advances each year. **Un-selected** is correct "Interlingual" level of transfer provides the best accuracy in statistical machine translation systems. **Un-selected** is correct Neural Machine Translation is able to produce translations for language pairs that have never been observed in train. Correct Evaluation in Machine Translation is hard, mostly because of many variations in translations. Correct



2.

Compute BLEU score for the following example with 2 digits after decimal point:

п	'	- 1	. •			-		ا ب	
	ln tro	<b>\</b> 1	110+1	010	+^	m 20	h 1120	trans.	しっちょへか
		)(		()	1()	11146		$\mathbf{I}$	1411011
J	$L \perp L \mid L \mid L \mid L \mid$	vu	$u \subset \iota_{\perp}$	$\mathbf{O}_{\mathbf{I}\mathbf{I}}$	LU	IIIuc.		LIUIIO.	IU LI O I I

System output: A friend when needed is a friend indeed.

·	e: A friend in need is a friend indeed.
0.41	
Correct	t Response
<b>~</b>	1/1 point
3. Let us sa correct?	y we are building a translation system from Greek (g) to Bulgarian (b). Which of the following statements are
	anguage model here is complicated because different word alignments are possible.
Un-sele	ected is correct
<b>I</b>	The noisy channel concept here corresponds to conditional distribution $p(gert b).$
Correct	t e e e e e e e e e e e e e e e e e e e
V	We will need to build a translation model $p(bert g).$
Un-sele	ected is correct
w v	Ve will need to build language model $p(b).$
Correct	



1/1 point

4.

Which parametrization for word alignment model would you use, if you know that sentences for your language pair often have aligned sequential chunks?

## Introduction to machine translation

Notation: (e, f) - sentence pair, (l, J) - their lengths respectively, a - alignment.



Option 3: 
$$p(f,a|e) = p(J|e)\prod_{j=1}^J p(a_j|a_{j-1},I,J)p(f_j|a_j,e)$$

Correct

- Option 1:  $p(f,a|e) = p(J|e) \prod_{j=1}^J p(a_j) p(f_j|a_j,e)$
- Option 2:  $p(f,a|e) = p(J|e) \prod_{j=1}^J p(a_j|j,I,J) p(f_j|a_j,e)$

