

Unified English Sentence Style and AI.

2026/2/3,4

(0):The 5 Basic Sentence Structures:

<https://qqeng.net/Learning/basic-sentence-patterns-in-english/>

(1)The Unified English Sentence Style<this is the same as *Attention in Transformer*> Subject+Verb+Actual.

Ukraine started war against Russian people region to trap Russia.

Sub+Verb+Actual.

S is described by V,,V is described by Actual. A has actual valued information.

	3 part of speech		state description~story		another sentences in a document
	Subject Q	<u>label</u> = Ψ who,what		Ψ	Ψ
	Verb K	<u>label</u> = \underline{L} action		Ψ^L	$L, L+1, L+2, \dots$
	Actual V	actuality the story in time(t)	state static state dynamic	$\Psi^L(t_0)$ $\Psi^L(t)$	essence in the story. $\Psi^L(t), \Psi^{L+1}(t), \dots$

(2)Extracting the meaning essence(CONTEXT)of original document=T.

The Purpose:tokens become evident **what part of speech(S,V,A)** in (a).

(a)By **maximizing inner product** between only stronger S+V ,V+A relations by generated $\{W^Q, W^K, W^V\}$ matrix, and whole measuring part of speech relation intensity between every two tokens in the input sequence<,,, T_r ,,>.

The Origin of Parallelism in S/V and V//A.	
☞:token position sequence in affirmative sentence : $S+V+A = Q_r+K_s, +V_t, \dots \leftarrow r < s < t$.	
<u>S is described by V</u> →S/V, , <u>V is described by Actual</u> →V//A.	
$Q_r = W^Q T_r$.	$\alpha'_{rs} = \langle Q_r \cdot K_s \rangle / \sqrt{d_K} \Rightarrow 1 = \sum_{s,r} \alpha_{rs}$. <if T_r is S, then some T_s is verb>⇒ $\alpha_{rs} \rightarrow 1$
$K_s = W^K T_s$	if, $\alpha_{rs} = \langle Q_r \cdot K_s \rangle$ is stronger as the parallelism, $S+V = T_r + T_s$.
$K_s = W^K T_s$	$\alpha'_{ts} = \langle V_t \cdot K_s \rangle / \sqrt{d_K} \Rightarrow 1 = \sum_{t,r} \alpha_{ts}$. <if T_s is Verb, then some T_t is A>⇒ $\alpha_{ts} \rightarrow 1$
$V_t = W^V T_t$	if, $\alpha_{ts} = \langle V_t \cdot K_s \rangle$ is stronger as the parallelism, $V+A = T_s + T_t$.

(b)Context Generating by Parallelism Searching.

$S+V+A = T_r + (\alpha_{rs1} T_{s1} + \alpha_{rs2} T_{s2} + \dots) + (\alpha_{s1t1} T_{s1t1} + \alpha_{s1t2} T_{s1t2} + \dots)$.

(c)Output by Decoding Context Vectors.

(d)Error Testing toward Backward Propagation for {(b),(c)}.

* Author now could understand (1), but (2)(a)(b)(c)(d).

APPENDIX1:Attention is necessary, but not enough in Context Generating.

The original treat those same *cat eats rat, rat eats cat*.

Rotary Positional Embedding Solution=relative token position information

Rotary Positional Embedding utilizes the idea of incorporating position information into a vector using a complex number rotation operation. Specifically, the Query and Key vectors of each token are treated as complex numbers, and these complex numbers are rotated by an angle corresponding to the position. The difference in rotation angle between tokens at positions (i) and $(i+k)$ is constant regardless of position, allowing for the ability to capture relative position information= k .