N-gram Language Modeling

I am the king of the ....world............
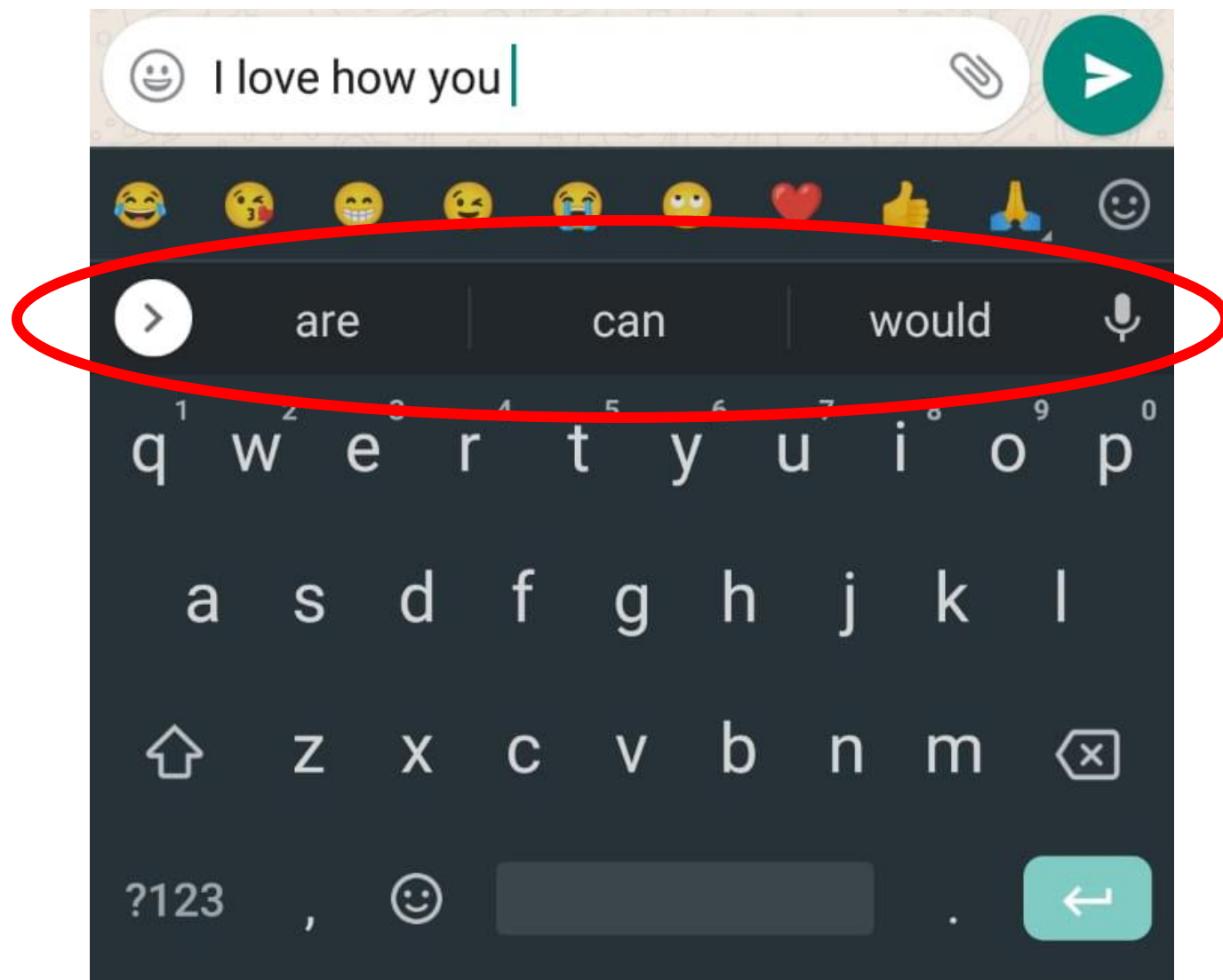
Input   Prediction

I am the king of the world ....of............

Input   Prediction

I am the king of the world of Warships is a naval action MMO, dipping into the world of large-scale sea battles of the first half of the twentieth century. Epic battles rage across the oceans of the world in order to claim victory among teams comprised of the greatest representatives from the era of multi-ton marine giants. In order to achieve victory in battle, players must employ a wide range of strategies in a variety of tactical decisions. Sudden ambushes, cunning flanking attacks, open confrontation and "head-on" assaults — captains must strive to find an ideal way to deliver a decisive blow at the enemy. Tactical diversity in World of Warships comes from the inclusion of many different classes of warships, including: aircraft carriers,` capable of providing remote air support and striking targets at extreme range; colossal battleships that project power across vast swaths of ocean; light and heavy cruisers with the capability to quickly respond to changing battlefield conditions; and stealthy, agile destroyers which can be highly effective in group attacks. I am the king of the world of Warships is a naval action MMO, dipping into the world of large-scale sea battles of the first half of the twentieth century. Epic battles rage across the oceans of the world in order to claim victory among teams comprised of the greatest representatives from the era of multi-ton marine giants. In order to achieve victory in battle, players must employ a wide range of strategies in a variety of tactical decisions. 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I love how you

😂 😘 😄 😉 😂 🙄 ❤️ 👍 🙏

>   are   can   would 🎤

q w e r t y u i o p

a s d f g h j k l

⇧ z x c v b n m ⌫

?123 , ☺ . ↵

We choose........

N-gram Language Modeling

"**n-gram**" : sequence of n words   I am the king

1-gram (unigram)   (I) (am) (the) (king)

2-gram (bigram)   (I am) (am the) (the king)

3-gram (trigram)   (I am the) (am the king)

Math is coming.....

Unigram Probability $\qquad$ $P(w) = \dfrac{count(w)}{N}$

Bayes Rule $\qquad$ $P(A|B) = \dfrac{P(A \cap B)}{P(B)}$

Bigram Probability $\qquad$ $P(w_i|w_{i-1}) = \dfrac{count(w_{i-1}, w_i)}{count(w_{i-1})}$

Trigram Probability $\qquad$ $P(w_i|w_{i-2}, w_{i-1}) = \dfrac{count(w_{i-2}, w_{i-1}, w_i)}{count(w_{i-2}, w_{i-1})}$

We want example!!!!

"Corpus"

The girl bought a chocolate
The boy ate the chocolate
The girl bought a toy
The girl played with the toy

"Vocabulary"

{the, girl, bought, a, chocolate, boy, ate, toy, played, with}

Input: The girl .....

$$P(bought|The,girl)=\frac{count(The,girl,bought)}{count(The,girl)}$$

$$P(bought|The,girl)=\frac{2}{3}=0.67$$

$$P(played|The,girl)=\frac{count(The,girl,played)}{count(The,girl)}$$

$$P(played|The,girl)=\frac{1}{3}=0.33$$

Probabilities for our vocabulary for Input: The girl....

the : 0
girl : 0
bought : 0.67
a : 0
chocolate : 0
boy : 0
ate : 0
toy : 0
played : 0.33
with : 0

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Slides and Code links in the description

Credits: Cheers to lisajulie from Pixabay and PongsakornRed from flaticon for illustrations!!