Markov Model

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What comes next

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What comes next

I came to university by [____] .

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The N-gram language model

A model that assigns probabilities to sequences of N words.

$$P(w_1^n) = P(w_1)P(w_2|w_1)P(w_3|w_1^2)\dots P(w_n|w_1^{n-1}) = \prod_{k=1}^{n} P(w_k|w_1^{k-1})$$

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Markov assumption

Instead of computing the probability of a word given its entire history, we can approximate the history by just the last few words i.e. two words in a bigram model.
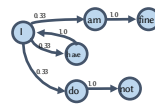
$$P(w_n | w_1^{n-1}) \approx P(w_n | w_{n-1})$$

$$P(the | many \ SoftwareSkills \ students \ read \ ) = P(the | read)$$

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Markov model

$$P(w_1^n) = \prod_{k=1}^{n} P(w_k | w_{k-1})$$

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Exercise

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Your feedback matters

http://bit.do/SK-Feedback

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