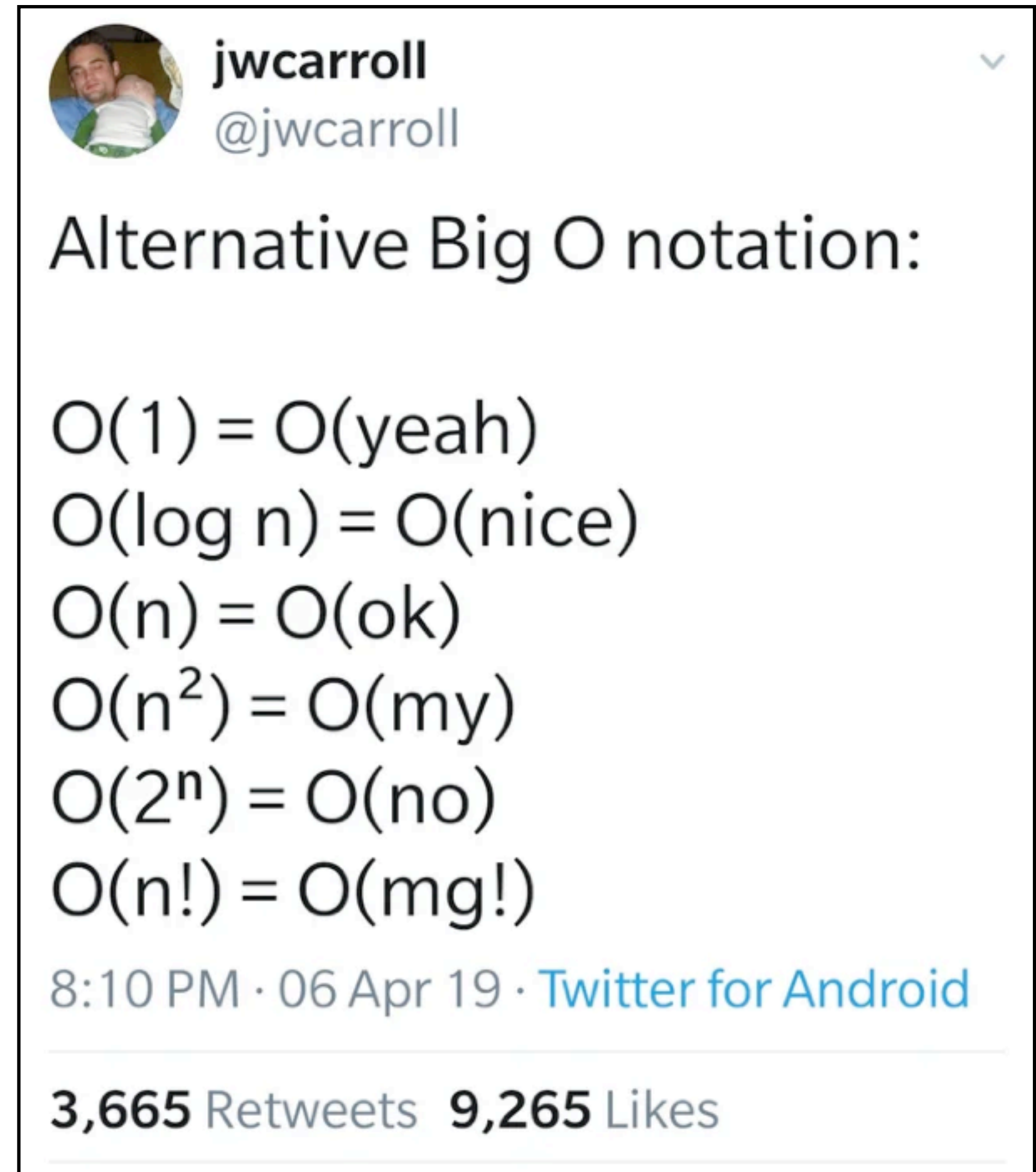


Traditional Auto-correlation is $O(n^2)$

There's no way we can run it on every frame



- Human vocal range is ~50Hz to around 2756Hz
- At 44.1kHz, that means lags from 16 to 882 samples
- That's 229,097,525 multiple-adds per frame
- Auto-tune does this every 40 samples
- That's 252,465,472,550 mul-adds per second



jwcarroll
@jwcarroll

Alternative Big O notation:

$O(1) = O(\text{yeah})$

$O(\log n) = O(\text{nice})$

$O(n) = O(\text{ok})$

$O(n^2) = O(\text{my})$

$O(2^n) = O(\text{no})$

$O(n!) = O(\text{mg!})$

8:10 PM · 06 Apr 19 · [Twitter for Android](#)

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