Our Results

$$F_p(x) = \sum_{i=1}^a |x_i|^p$$



• Theorem [K, Pagh, Thorup, Woodruff FOCS '23]: For p > 2, there is an algorithm using $\tilde{O}(d^{1-2/p})$ space and an update time of O(1)

Space is optimal unto polylog factors!

• Time in the WordRAM model with $O(\log d)$ bits word size

• Improves on poly(d) update time of Andoni '17

Our Results

$$F_p(x) = \sum_{i=1}^d |x_i|^p$$

- **Theorem** [K, Pagh, Thorup, Woodruff FOCS '23]: For p>2, there is an algorithm using $\tilde{O}(d^{1-2/p})$ space and an update time of O(1)
 - Space is optimal unto polylog factors!
 - Time in the WordRAM model with $O(\log d)$ bits word size
 - Improves on poly(d) update time of Andoni '17

Our Results