

Our Results

• **Theorem:** For $0 < p < 2$, can approximate $F_p(x)$ up to $1 \pm \varepsilon$ using $\varepsilon^{-2} \log n$ bits of space and $O(\log n)$ update time

- Valid only for $\varepsilon < 1/n^c$

- Improves on $O(\log^2 n \log \log n)$ update time of [KNPW '11]

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- A streaming algorithm which can compute $\hat{x}[i]$ such that for $\alpha \leq 1$
 - Obtained by derandomizing [Minton and Price '14]
- The algorithm uses $O(tr \log(n) + \log^2 n)$ bits of space
 - $O(r \log n)$ update time