PFLOCK Report

Andres Calderon
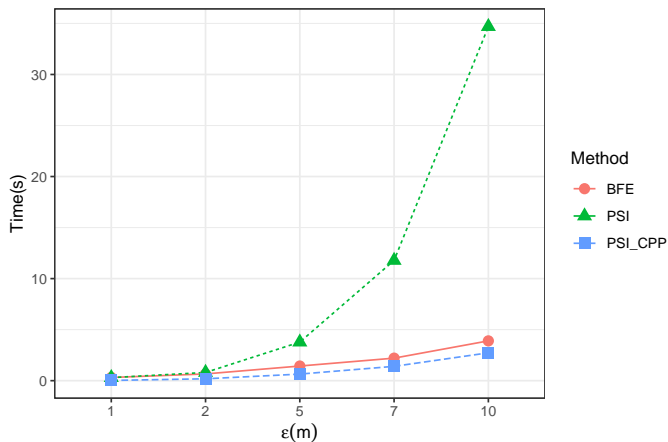
University of California, Riverside

October 13, 2023
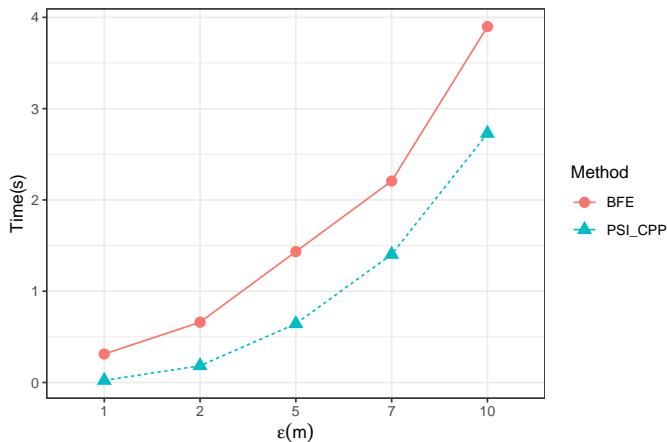
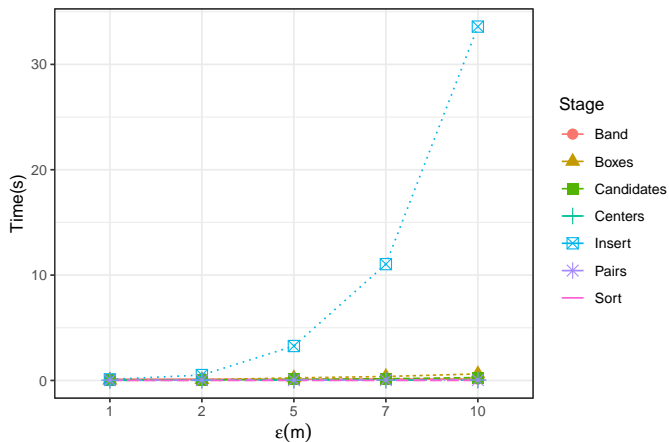# Fixing bug about reporting subset disks...

Dealing with (my) PSI performance...

Dealing with (my) PSI performance...

Dealing with (my) PSI performance...

Dealing with (my) PSI performance...

Algorithm 2: Filter out disks which are subsets

---

1 **Algorithm** FilterCandidates($\mathcal{B}$)

    Input: $\mathcal{B}$: active boxes of timestamp t_i, sorted by x-axis values

    Output: $\mathcal{C}$: final set of disks for timestamp t_i

2    $\mathcal{C} \leftarrow \emptyset$

3   **for** $j \leftarrow 0$ **to** $j \leqslant |\mathcal{B}|$ **do**

4   **for** $k \leftarrow j+1$ **to** $k \leqslant |\mathcal{B}|$ **do**

5   **if** IntersectsWith($\mathcal{B}[j]$, $\mathcal{B}[k]$) **then**

6   **foreach** $c \in \mathcal{B}[j].disks$ **do**

7                    $\mathcal{C} \leftarrow$ InsertDisk ($\mathcal{C}, c$)

8   **else** // No intersection.

9   **break**

10 **Procedure** InsertDisk($\mathcal{C}, c$)

    Input: $\mathcal{C}$: set of disks, c: new disk

11   **foreach** $d \in \mathcal{C}$ **do**

12   **if** $c.sign \wedge d.sign = c.sign$ && $dist(c,d) \leqslant \epsilon$ **then** // c can be a subset of d

13   **if** $d \cap c = c$ **then** // Remove chance of false-positive

14   **return** $\mathcal{C}$ // No need to insert c

15   **else if** $c.sign \wedge d.sign = d.sign$ **then** // d can be a subset of c

16   **if** $c \cap d = d$ **then** // Remove chance of false-positive

17                $\mathcal{C} \leftarrow \mathcal{C} \setminus d$ // Remove d

18   **return** $\mathcal{C} \cup c$