1 Compute initial warp w_0

2 **for** $k = 1, \ldots, N$ **do**

3 $\quad\Big|\quad w_k \leftarrow$ randomly generated warp

4 $\quad\Big|\quad r_k \leftarrow I(w_0 \circ w_k, 0)$

5 **end**

6 $\hat{w} \leftarrow w_0$

7 **for** *each time t in* $1, 2, \ldots$ **do**

8 $\quad\Big|\quad s \leftarrow I(\hat{w}, t)$

9 $\quad\Big|\quad k \leftarrow \underset{k=1,\ldots,N}{\operatorname{argmin}} \; L(s, r_k)$

10 $\quad\Big|\quad \hat{w} \leftarrow \hat{w} \circ w_k^{-1}$

11 **end**