

---

**Algoritmo 1:** *Co-Forest*

---

**Input:** Labeled dataset  $L$ , unlabeled dataset  $U$ , number of trees  $n$ , confidence threshold  $\theta$ , initial confidence summation  $W_{initial}$ , and parameters for decision trees  $p$

**Output:** Trained ensemble of trees  $H$

```
1 for  $i = 0, \dots, n - 1$ 
2    $L_i \leftarrow Bootstrap(L)$ 
3    $h_i = \text{TrainTree}(L_i, p)$ 
4    $\hat{e}_{i,t} \leftarrow 0.5$ 
5    $W_{i,0} \leftarrow W_{initial}$ 
6 endfor
7  $t \leftarrow 0$ 
8 while Any tree receives pseudo-labels
9    $t \leftarrow t + 1$ 
10  for  $i = 0, \dots, n - 1$ 
11     $\hat{e}_{i,t} \leftarrow \text{EstimateError}(H_i, L)$ 
12     $L'_{i,t} \leftarrow \emptyset$ 
13    if  $\hat{e}_{i,t} < \hat{e}_{i,t-1}$ 
14       $W_{max} = \hat{e}_{i,t-1} W_{i,t-1} / \hat{e}_{i,t}$ 
15       $U'_{i,t} \leftarrow \text{Subsample}(U, H_i, W_{max})$ 
16       $W_{i,t} \leftarrow 0$ 
17      foreach  $x_j \in U'_{i,t}$  do
18        if  $\text{Confidence}(H_i, x_j) > \theta$ 
19           $L'_{i,t} \leftarrow L'_{i,t} \cup x_j, H_i(x_j)$ 
20           $W_{i,t} \leftarrow W_{i,t} + \text{Confidence}(H_i, x_j)$ 
21        end
22      end
23    end
24  endfor
25  for  $i = 0, \dots, n - 1$ 
26    if  $(e_{i,t} * W_{i,t} < e_{i,t-1} * W_{i,t-1})$ 
27       $h_i = \text{RetrainTree}(L_i \cup L'_{i,t})$ 
28    end
29  endfor
30 endwhile
31 return  $H$ 
```

---