python

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你好，LaTeX

算法 1 Exact Greedy Algorithm for Split Finding

INPUT: $I, instance\,set\,of\,current\,node$

INPUT: $d, feature\,dimension$

1: $gain \leftarrow 0$

2: $G \leftarrow \sum_{i \in I} g_i, H \leftarrow \sum_{i \in I} h_i$

3: **for** $k = 1$ to n **do**

4:      $G \leftarrow 0, H \leftarrow 0$

5:      **for** j in sorted(I,by x_{jk}) **do**

6:        $G_L \leftarrow G_L + g_j, \quad H_L \leftarrow H_L + h_j$

7:        $G_R \leftarrow G - G_L, H_R \leftarrow H - H_L$

8:        $score \leftarrow \max \left(score, \frac{G_L^2}{H_L+\lambda} + \frac{G_R^2}{H_R+\lambda} - \frac{G^2}{H+\lambda} \right)$

OUTPUT: Split(包括选用的特征，分裂阈值) with max score