

---

## Supplementary 1: Dataset Statistics and CatBoost Parameters

In this supplementary material, we specify the main statistics of the evaluation datasets (Table 1) and values of CatBoost parameters used in the experiments (Table 2):

Table 1: Dataset statistics.

Dataset	No. Features	Train size	Test size
Adult	14	32,561	16,281
Amazon	9	26,215	6,554
Upselling	214	35,000	15,000
Hospital	127	20,000	81,766

Table 2: Dataset CatBoost parameters.

Dataset	No. Trees	Depth	Learn rate	Formula
Adult	100	6	0.2	Newton
Amazon	100	6	0.15	Newton
Upselling	100	6	0.15	Newton