

Pixability is committed to equal opportunity in employment and giving a fair chance. We want to recognize everyone's skills and experiences, the assessment provides an objective way to measure candidates equally. We appreciate your participation and good luck!

We ask that you spend no more than 1 hour on this exercise and once completed please return within 3 business days.

Problem statement:

We would like you to create a basic machine learning model that uses the associated criteo dataset and predicts the optimal **bid price** for the next period based on the included features.

Expectations:

Submit all code related to your work (no pdf or presentation necessary). It's recommended that you use Jupyter notebooks or html export of a Jupyter notebook.

Dataset:

- **timestamp**: timestamp of the impression (starting from 0 for the first impression). The dataset is sorted according to timestamp.
- **uid** a unique user identifier
- **campaign** a unique identifier for the campaign
- **conversion** 1 if there was a conversion in the 30 days after the impression (independently of whether this impression was last click or not)
- **conversion_timestamp** the timestamp of the conversion or -1 if no conversion was observed
- **conversion_id** a unique identifier for each conversion (so that timelines can be reconstructed if needed). -1 if there was no conversion
- **attribution** 1 if the conversion, 0 otherwise
- **click** 1 if the impression was clicked, 0 otherwise
- **click_pos** the position of the click before a conversion (0 for first-click)
- **click_nb** number of clicks. More than 1 if there was several clicks before a conversion
- **cost** the price paid for this display ad
- **cpo** the cost-per-order in case of attributed conversion
- **time_since_last_click** the time since the last click (in s) for the given impression
- **cat[1-9]** contextual features associated with the display. Can be used to learn the click/conversion models. Meaning is not important.

The dataset is tab-separated and can be downloaded from the following link:

<https://pix-ml-public.s3.amazonaws.com/assessment-data/data.tsv>