

The solutions are evaluated on two criteria: predicted future Index values and allocated energy from a newly discovered star

1) Index predictions are evaluated using RMSE metric

2) Energy allocation is also evaluated using RMSE metric and has a set of known factors that need to be taken into account.

Every galaxy has a certain limited potential for improvement in the index described by the following function:

- Potential for increase in the Index = $-\text{np.log}(\text{Index}+0.01)+3$

Likely index increase dependent on potential for improvement and on extra energy availability is described by the following function:

- Likely increase in the Index = $\text{extra energy} * \text{Potential for increase in the Index} **2 / 1000$

There are also several constraints:

- in total there are 50000 zillion DSML available for allocation
- no galaxy should be allocated more than 100 zillion DSML or less than 0 zillion DSML
- galaxies with low existence expectancy index below 0.7 should be allocated at least 10% of the total energy available

3) Leaderboard is based on a combined scaled metric:

- $80\% \text{ prediction task RMSE} + 20\% \text{ optimization task RMSE} * \lambda$

where λ is a normalizing factor

4) Leaderboard is 80% public and 20% private

5) The submission should be in the following format:

Variable	Description
Index	Unique index from the test dataset in the ascending order
pred	Prediction for the index of interest
opt_pred	Optimal energy allocation