

In this comparison, we employ the baseline models mentioned in ???. Namely, the *Case-Based Generator*, the *Sample-Based Generator* and the *Random Generator*.

We randomly sample 20 factuials from the test set and use the same factuials for every generator. We ensure, that the outcomes are evenly divided. The remaining procedure follows the established procedure of previous experiments.

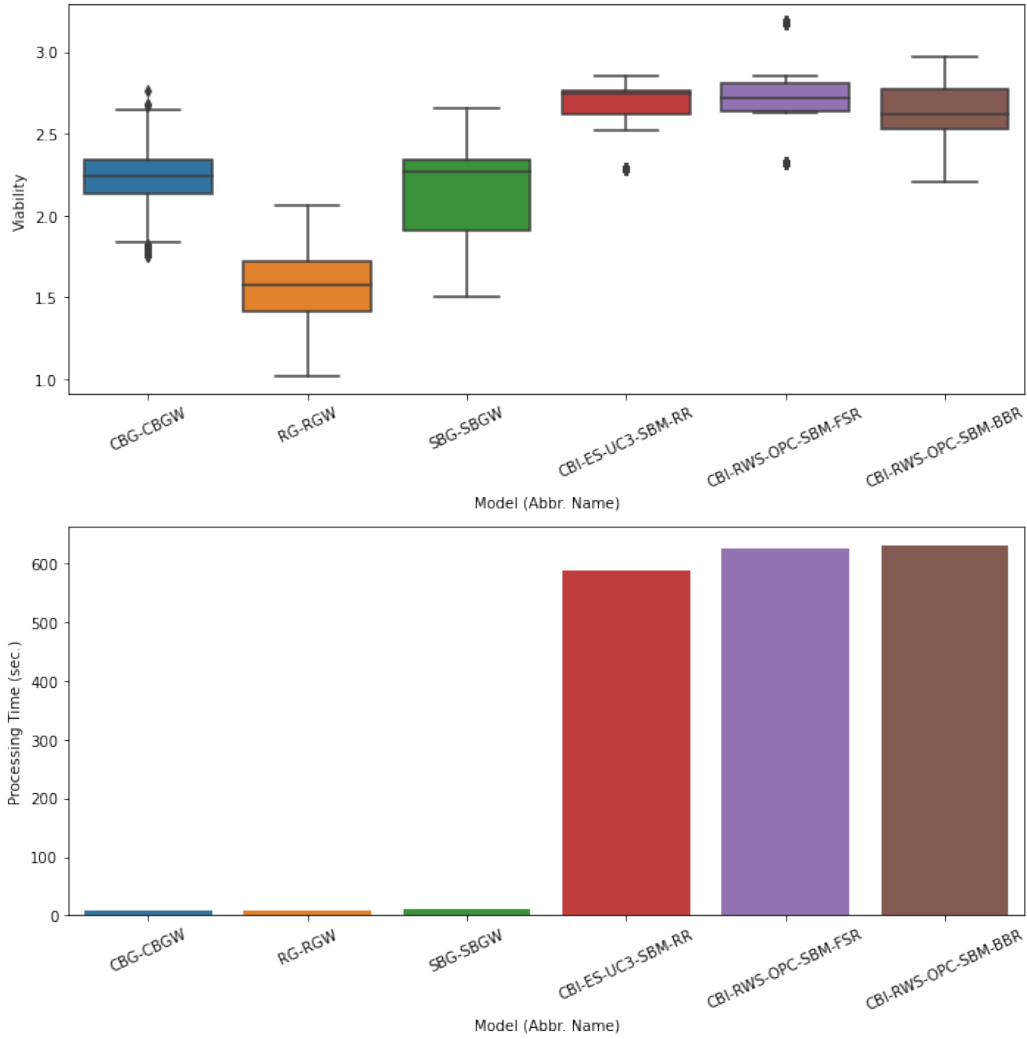


Figure 1: This figure shows boxplots of the viability of each models' generated counterfactual.

The results shown in Figure 1 show that the evolutionary algorithm *CBI-ES-UC3-SBM-RR* slightly returns better results when it comes to the median viability. The worst model is the random generated model. The Case-Based model appears to be evenly and normally distributed at a viability of 2.25.

The *CBI-RWS-OPC-SBM-FSR* has outliers that far exceed and underperform against other evolutionary algorithms on both ends.

Figure 1 also displays the vast difference in computation time for the evolutionary algorithms. Only the model using the *Ranking-Recombination* seems to be slightly faster than the ones using Best-Breed and Fittest-Survivor as recombination methods.

Table 1 shows the detailed results.

Table 1: The result of Experiment 4. The colors indicate the model configurations that were examined. The results are based on the average viability each counterfactual a model produces across all factials that were tested.

Model (Abbr. Name)	Prediction Score	Viability	Sparcity	Similarity	Feasibility	Delta	Num. Paddings	Processing Time (sec.)	Max. Seq. Length
CBG-CBGW	0.514867	2.230507	0.764022	0.818115	0.014585	0.633786	14.584000	9.414627	27.000000
CBI-ES-UC3-SBM-RR	0.497746	2.678977	0.870874	0.896964	0.087737	0.823403	15.448000	588.550365	27.000000
CBI-RWS-OPC-SBM-BBR	0.445966	2.612767	0.851280	0.882271	0.095409	0.783807	15.560000	631.307437	27.000000
CBI-RWS-OPC-SBM-FSR	0.463966	2.728961	0.870071	0.899039	0.160373	0.799478	15.432000	625.714404	27.000000
RG-RGW	0.569685	1.554904	0.338077	0.578003	0.000000	0.638824	1.034000	8.175288	27.000000
SBG-SBGW	0.487669	2.151321	0.717582	0.755577	0.171964	0.506198	25.016000	9.927904	27.000000