

## 1. Transferability to other data domains

Table 1. Accuracy (%) comparison between Random, InfoBatch and GDeR on CIFAR-10+ResNet-18. The remaining ratio is set among {100%, 70%, 30%}. Our results are tested on one NVIDIA Tesla A100 (80GB GPU).

Remaining ratio	100%	70%	30%
Random	95.69	94.88	90.2
InfoBatch	95.69	95.36	94.92
GDeR	95.69	95.74	95.12

Table 2. Accuracy (%) and Time (hour) comparison between UCB, InfoBatch and GDeR on ImageNet-1k+ResNet-50. The remaining ratio is set as 60%. Our results are tested on eight NVIDIA Tesla A100 (80GB GPU).

Remaining ratio	100%		70%	
Metric	Acc.	Wall-clock time	Acc.	Wall-clock time
InfoBatch	76.43	6.2h	76.49	3.74h
GDeR	76.43	6.2h	76.52	3.89h

## 2. Updated baselines

### 2.1. Advanced Robust GNN baselines

Table 3. F1-Macro (%) comparison among GraphDE, MRGL and GDeR on DAGCN+MUTAG with GRABNEL. We set the pruning ratio of GDeR to 30%.

Noise ratio	0%	5%	10%	20%
GraphDE	85.12	82.99	81.45	79.16
MRGL	85.12	84.66	82.07	78.59
GDeR	85.12	83.08	83.46	80.14

### 2.2. Advanced Long-tail baselines

Table 4. F1-Macro (%) comparison of GDeR, DynamicSample and Graph-level SMOTE on MUTAG+GCN. We fix the pruning ratio of GDeR to 20%.

Imbalance Ratio	1 : 9	3 : 7	7 : 3	9 : 1
Baseline	58.07	76.52	51.99	50.75
DynamicSample	63.12	75.41	73.07	69.20
SMOTE	65.26	77.87	77.68	73.48
GDeR	71.81	79.10	77.96	75.70

## 3. Complexity and efficiency

Table 5. Wall-clock time (s) comparison of GDeR, Random and Infobatch on MUTAG+PNA. We vary the pruning ratio among {20%, 30%, 50%, 70%}.

Pruning Ratio	20%	30%	50%	70%
Random	100.6895	100.0426	183.6579	227.6009
Infobatch	102.5114	114.5953	185.8063	229.3231
GDeR	115.9506	118.4320	195.7631	241.3048

Table 6. Wall-clock time (s) comparison of GDeR, Random and Infobatch on OGBG-MOLHIV+GraphGPS. The pruning ratio is consistently set to 70%.

Metric	Wall-clock time	Performance
Random Pruning	1607.29	74.1
InfoBatch	1694.55	75.6
GDeR	1844.56	76.9

## 4. Case study and visualization

### 4.1. Imbalanced pruning visualization

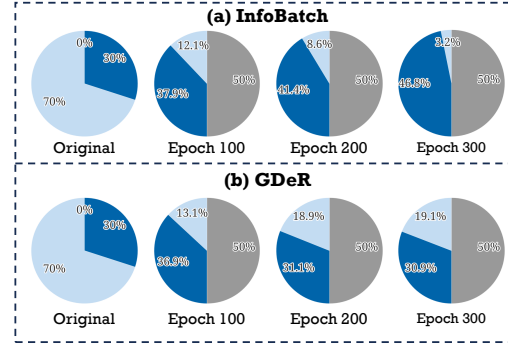


Figure 1. The sample distribution with InfoBatch or GDeR at pruning ratios of 50% in the {0, 100, 200, 300}-th epoch. The gray, light blue and dark blue represent pruned, minority, and majority samples, respectively.

### 4.2. Noisy pruning visualization

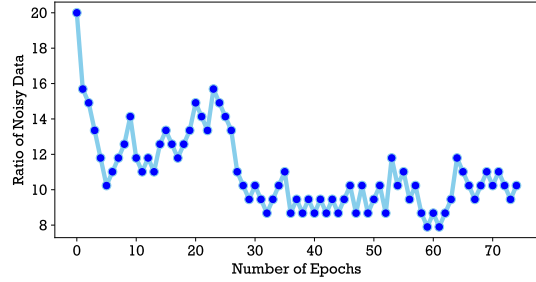


Figure 2. The ratio of noisy data in the maintained training set at pruning ratios of 30% when applying GDeR to MUTAG+GCN.