

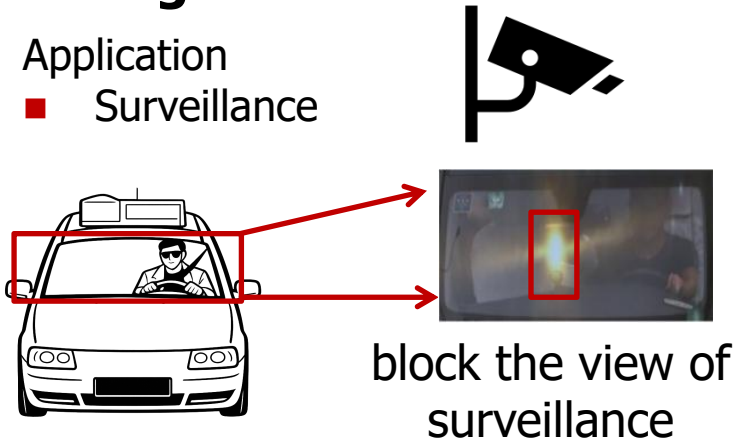
# Sample Informativeness Measurement Guided Training-Aware Dataset Pruning for Highlight Removal

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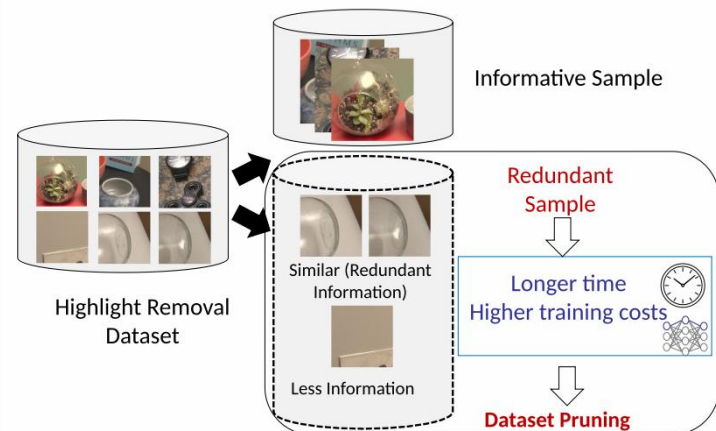
## Background

Application

■ Surveillance

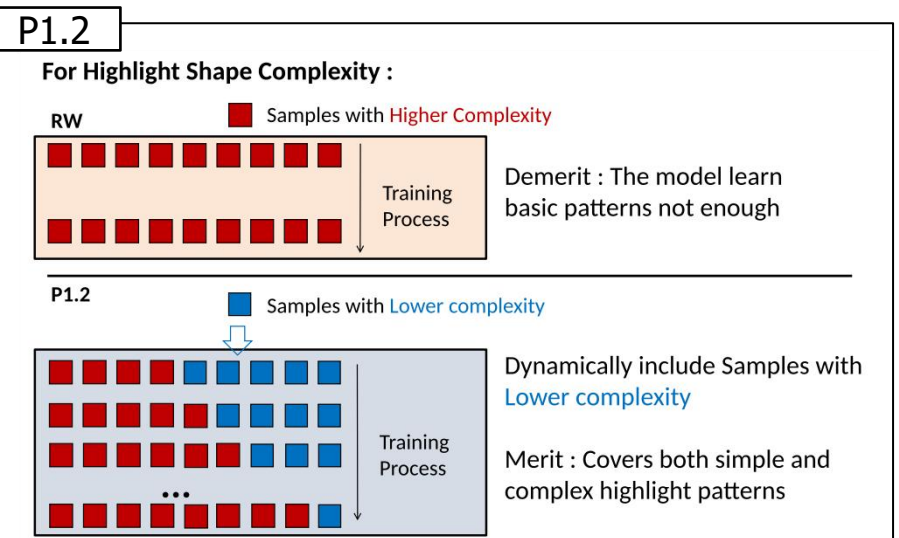
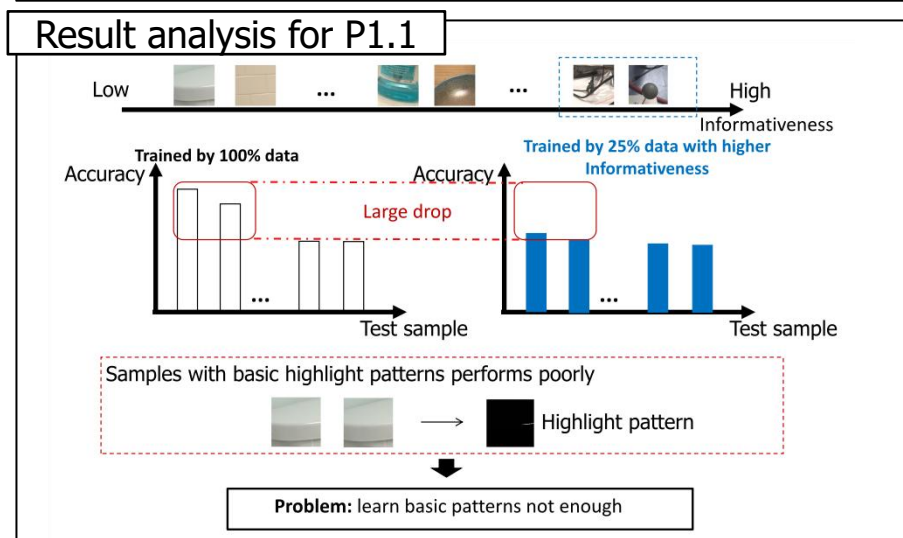
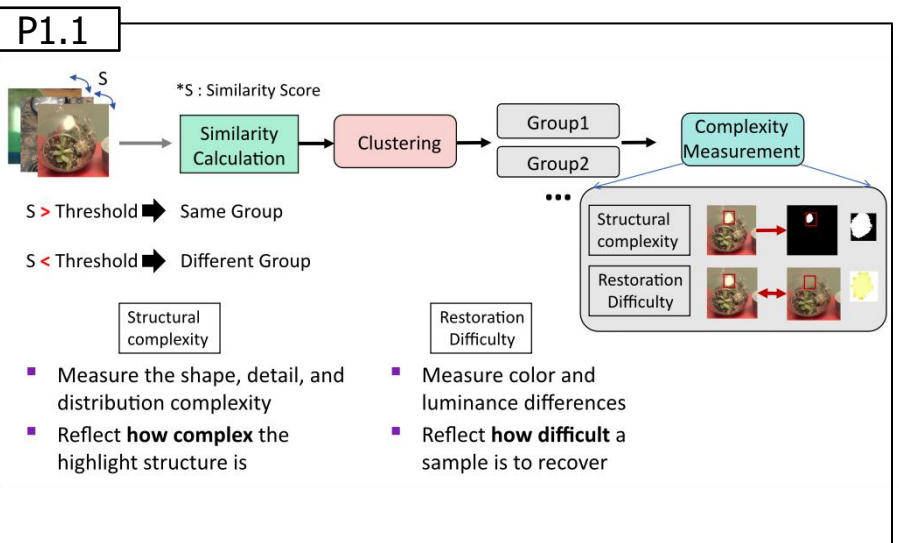
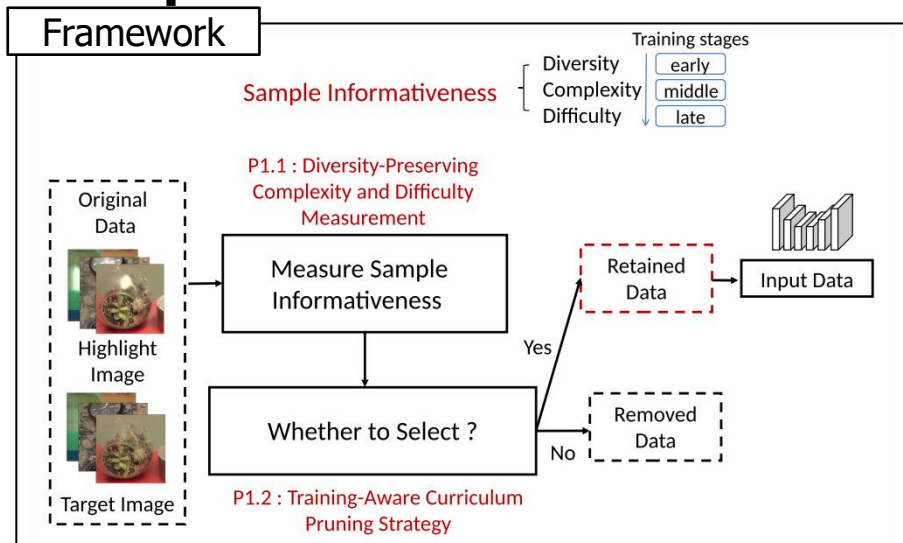


## Challenges



◆ **Target** Reduce training cost while maintaining no visual difference from the original.

## Proposals



## Experiment Results

| Remain 25%      | SHIQ   |         |        | PSD    |         |        | Training Time(h) |
|-----------------|--------|---------|--------|--------|---------|--------|------------------|
|                 | SSIM   | PSNR    | LPIPS  | SSIM   | PSNR    | LPIPS  |                  |
| +Random pruning | 0.9618 | 32.5124 | 0.0507 | 0.9238 | 27.3159 | 0.0528 | 3.20             |
| +Related Work   | 0.9636 | 32.6954 | 0.0489 | 0.9252 | 27.4112 | 0.0540 | 3.66             |
| +P1.1           | 0.9653 | 33.0102 | 0.0466 | 0.9243 | 27.3822 | 0.0526 | 4.10             |
| +P1.1+P1.2      | 0.9653 | 33.1923 | 0.0461 | 0.9256 | 27.4264 | 0.0516 | 4.33             |
| Without pruning | 0.9697 | 34.6999 | 0.0375 | 0.9259 | 27.5085 | 0.0493 | 12.60            |

## Conclusion

■ The proposed methods achieve an improvement in accuracy. Compared to the HRNet + Top-k (pruning 25%), the HRNet + P1 pruning method, achieves an improvement of 0.4969dB in PSNR and 0.0017 in SSIM

