**Introduction**

Object proposal aims to detect the bounding boxes of class-independent objects in an image. Current edge-based object proposal methods cannot discriminate the edges from objects and background, which may lead to inaccuracy in objectness measurement. We propose a novel object proposal method for RGB-D images based on layered edges.

**Method**

**Sparse edge detection**
- Structured edge detector with No-Maximal Suppression

**Depth correction**
- Eliminate the influence of inaccurate boundaries and noises in depth channel

**Depth-aware layered edges**
- Assign the sparse edges to multiple layers by adaptive sliding window
- Measure the objectness of candidate boxes on each layer based on the corresponding edges independently

**Proposals ranking**
- Sample the candidate boxes and measure their objectness on each layer independently
- Integrate the scores of each candidate box on all the layers

**Experiment**

We propose an effective object proposal method RGB-D for images based on layered edges
- Edge map is layered with adaptive sliding window according to the corrected depth channel
- Objectness is independently measured on all the layers and then integrated to generate the proposals

**Conclusion**

Contact to: rentw@nju.edu.cn