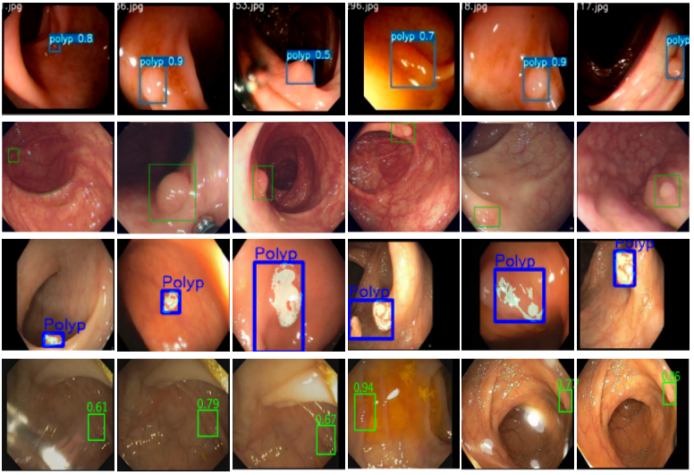
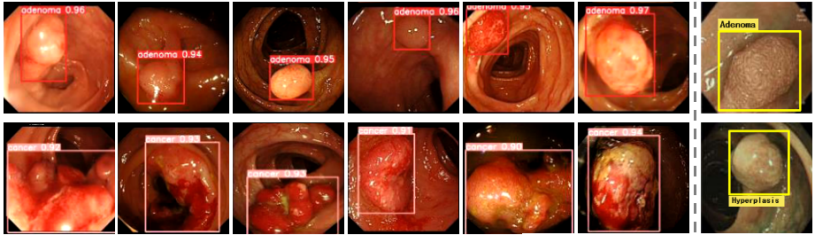
(a)Only detection without classification

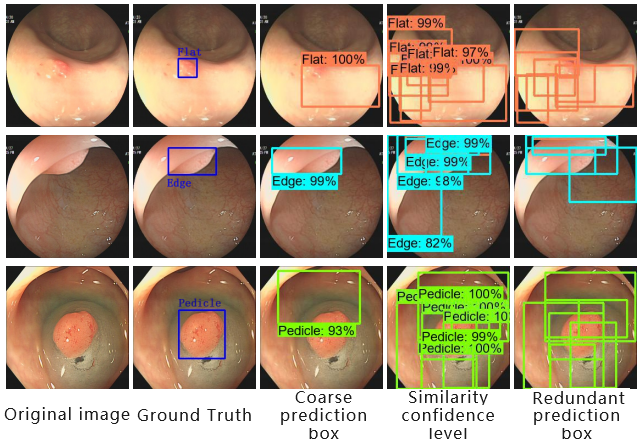


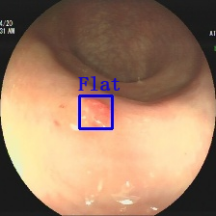
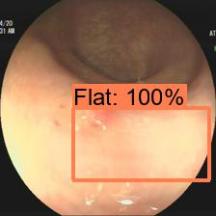
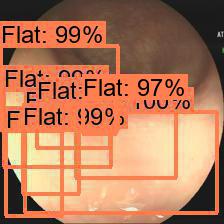
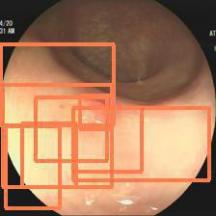
(b) detection

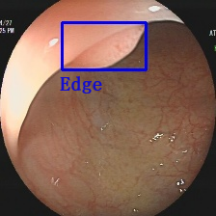
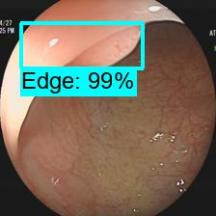
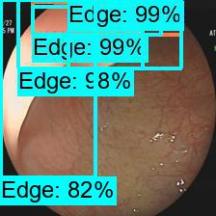
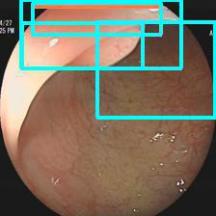
Bicategory

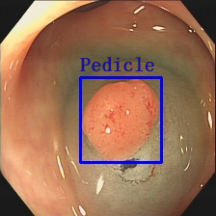
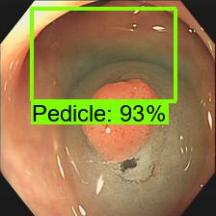
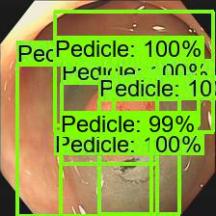
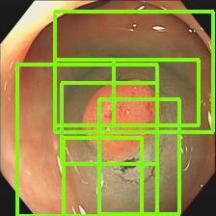


(c)Challenges in weakly supervised polyp detection

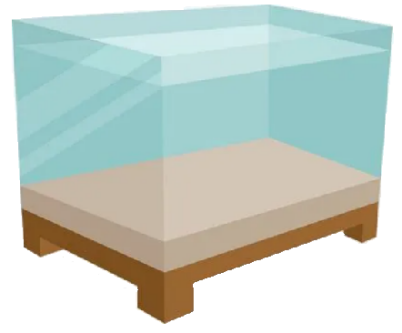


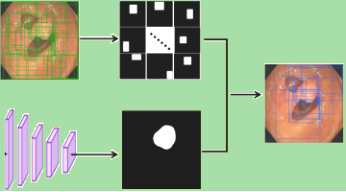
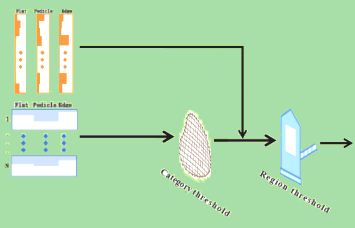
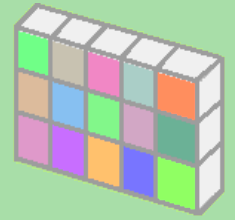
    

Original image Ground Truth Coarse prediction box Similarity confidence level Redundant prediction box

****



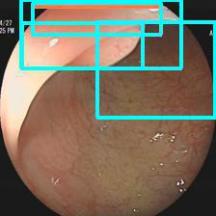
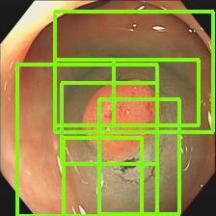
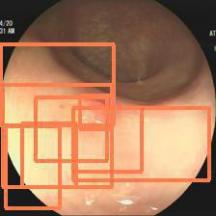
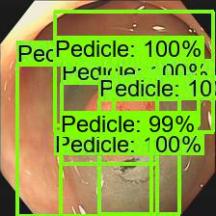
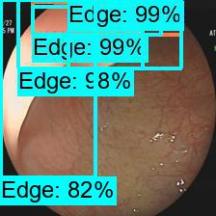
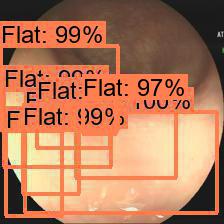
**Solution3**

**c) Our contribution and results**

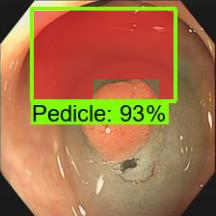
**Challenges**

**Solution2**

**Solution1**



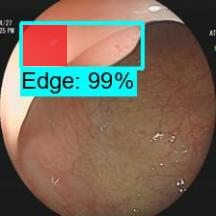
**Challenge 3**



**Unexpected background areas**

**Undistinguish-ed confifence level**

**High false positive prediction**

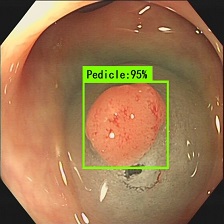
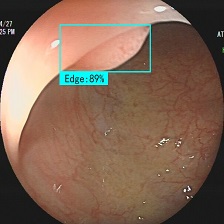
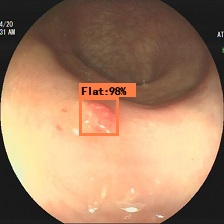


**Challenge 1**

**Challenge 2**

**Our**

**results**



**Space category module**

**Contribution 2**

**Cross-reference module**

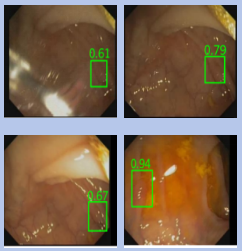
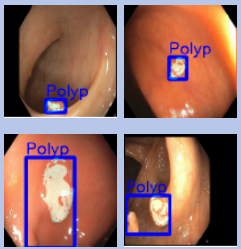
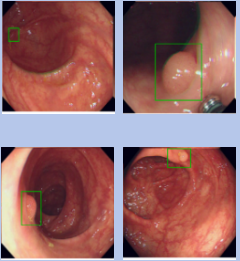
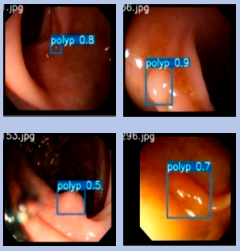
**Contribution 1**

**Contribution 3**

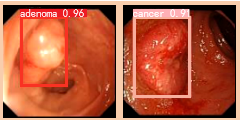
**Dual-threshold Postprocessing Strategy**

**Excepted prediction results**

1. **Challenges in weakly supervised polyp detection**
2. **Previous works with presence or bi-category detection**



**Poon CCY et al. [21]**



**[Junbo Gao](https://pubmed.ncbi.nlm.nih.gov/?term=Gao+J&cauthor_id=35103073) et al.[21]**

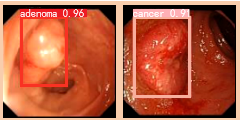


**[Juana González-Bueno](https://pubmed.ncbi.nlm.nih.gov/?term=Gonz%C3%A1lez-Bueno+Puyal+J&cauthor_id=36209637)**

**[Puyal](https://pubmed.ncbi.nlm.nih.gov/?term=Gonz%C3%A1lez-Bueno+Puyal+J&cauthor_id=36209637) et al.[21]**

**Ishak Pacal et al.[21]**

**[A Mohammed](https://xueshu.baidu.com/s?wd=author:(A Mohammed) &tn=SE_baiduxueshu_c1gjeupa&ie=utf-8&sc_f_para=sc_hilight=person" \t "https://xueshu.baidu.com/usercenter/paper/_blank) et al.[21]**



**[Lingyun Wu](https://link.springer.com/chapter/10.1007/978-3-030-87240-3_29" \l "auth-Lingyun-Wu) et al.[21]**

**Bi-category**

**Presence**

